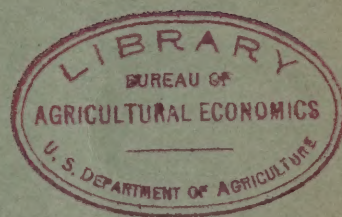


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TODAY'S SOIL
FOR
TODAY AND TOMORROW



UNITED STATES DEPARTMENT OF AGRICULTURE

Agricultural Adjustment Administration

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
Washington, D.C.

May 1, 1940

TO FARM AND HOME HOUR LISTENERS:

In "Today's Soil for Today and Tomorrow" the people who are in the front ranks of the conservation army making war against soil destruction have given their reports first-hand. These reports show that farm people have studied their soil problems carefully and are making real progress toward meeting them.

We are glad to have had the request to put your name on the list to receive these reports.

R. L. Webster

R. L. Webster, Chief,
Publications, Press & Radio Section
Division of Information

TODAY'S SOIL FOR TODAY AND TOMORROW

No. 1 -Soil Conservation for the Nation's Preservation

A radio talk by R. M. Evans, Triple-A Administrator, broadcast Tuesday January 16, 1940 in the Department of Agriculture's portion of the National Farm and Home Hour over 91 stations associated with the National Broadcasting company.

---ooOoo---

KADDERLY:

Farm and Home friends, we bring you now the first broadcast in a new series that will deal with one of the most serious problems of our time.....the problem of soil conservation.

Beginning next Tuesday, and continuing for several weeks, farmers who make up the County Agricultural Conservation Committees in different parts of the country will tell you about some of the things they and other farmers in their communities or States are doing to conserve soil.

Beginning the series, today, we'll hear from the Administrator of the Agricultural Adjustment Administration, R. M. (Spike) Evans. His subject is "Soil Conservation for the Nation's Preservation." I'm glad to present, Spike Evans.

EVANS:

Early in this new year with wars raging abroad, we are taking new thought for our country's future.

There are dangers aplenty. Through defense measures, we must protect ourselves as well as we can against the epidemic of war.

While much of the rest of the world is at war, we as a country have united ourselves in a new enterprise as serious as any war. This is a constructive war against soil erosion and soil waste -- a united effort toward soil conservation and conservation of people. This is part of our national defense -- defense of our fundamental strength.

Peoples at war have their own preservation at stake. We, too are at war--a peacetime war--and our own national preservation is at stake also. We have launched an offensive to preserve the foundation of America--our soil.

I know it has been hard for Americans to realize that soil conservation may become, if it is not already that, our Number 1 national problem. For many people, conservation as a necessity for our country's preservation is a new thought. Some people have said they believed in conservation; yet they insisted it was the duty of every farmer to grow every bushel of corn and wheat he could squeeze out of the earth ... that it was the duty of the farmer to produce every bale of cotton and every pound of rice that would grow, even at the expense of tearing up trees and grasses.

But that is not conservation. For conservation, we need more trees--not less; we need more grass--not less; we need more legumes--not less.

Many farmers have realized the need for soil conservation for years but have not been able to do much if anything about it. They haven't had the money and material. And when surpluses held down farm prices many farmers had to use their soil too hard.

(1/16/40)

The problem boils down to this: Conservation is an urgent national need which demands national action. We have been slow to recognize the danger. The social cost would have been much less if we had started effective conservation measures many years ago. It is not yet too late, however, to guarantee for ourselves and our children a future land of abundance, strength, and freedom. We have thought and acted as if we owned resources without limit. We have thought and acted more like an invading army than as good stewards of the soil.

The call to conservation has not come too soon. In spite of all that farmers are now doing, we are losing our soil faster than soil is building up. The pages of history and the ruins of former civilization warn us of the results. Soil erosion and soil exhaustion have wiped out great empires and civilizations, one after another.

Already in this new land of ours, we have destroyed forests, ruined our streams, and sacrificed fertility that required centuries for building up. The surveys by the Soil Conservation Service show that we have just about destroyed 100 million acres of cropland. This means we have destroyed one-fourth as many acres as we now use for crop production.

With our machines and scientific knowledge, we are the most efficient producers on earth. But with our machines and disregard for our scientific knowledge, we have been the most efficient destroyers on earth. We see the evidence of destruction not only in scientific studies but in muddy streams, floods, dust storm gullies, and impoverished people.

However, the tide of public opinion and of public action has turned. The tide of exploitation has gone out. The tide of conservation is coming in.

In the past year nearly 6 million farmers have taken part in the Agriculture Conservation Program. As a matter of fact, all citizens have had a part in the program because, through Congress, the program was authorized and supported by the public.

It's too early to have the figures showing what farmers accomplished in 1939. But I can report on results in 1938. More than 5 million farmers took part in the program that year.

They operated nearly three fourths of the nation's cropland in accordance with provisions of the conservation program. Let's see what that means.

For conservation, we need among other things more trees, grass, and legumes. With our national farm acreage over-expanded as it has been, you can't get more acres of trees, grass, and legumes without putting fewer acres into wheat, corn, cotton, tobacco, rice and other soil-depleting crops. The way to get fewer acres into cash crops that wear out the soil is for farmers to agree to divide a definite total acreage among themselves. Farmers do this through the acreage allotments and the Ever-Normal Granary, without which there could be no effective conservation. Acreage allotments are soil conservation just as much as other parts of the farm program. Safe reserves are stored in the Ever-Normal Granary and this prevents waste of food and fertility.

Farm by farm, throughout the nation, farmers are improving their land through soil-building practices which are provided for in the Triple-A programs. These are practices which research and demonstration work by the Soil Conservation Service are

State agencies have shown are best adapted to save and improve the soil.

In the next few weeks, in this series of broadcasts, you will hear farmers who help conduct the Triple-A conservation program in their own counties. You will hear from a county where farmers have gotten fine results from planting legumes. You will hear from a county where farmers have planted many acres to grass. You will hear from ranchers who are conserving water and improving the stand of grass on western range. You'll hear from farmers who are putting minerals into their soil in order to grow more legumes and grass and to improve pastures. You'll hear about notable results with winter cover crops, tree planting, green manure crops, terracing, and woodland management. You'll hear from a dust bowl county which has gone in for strip cropping and other practices to keep the soil from blowing.

I believe these reports will make several facts plain. For one thing, you will see that the farmers have wide latitude in which to develop a conservation program meeting local needs. You will see that farmers themselves take much of the responsibility for developing and administering the program. And I hope you will bear in mind that the reports are localized examples of conservation work now being carried on by farmers from coast to coast.

The story these farmers have to tell is that the job of conservation is being done in the only way it can ever be done in America--by the individual farmer working on his own farm, along with other farmers on their farms. When a single farmer carries out the practices provided by the Triple-A, the program is working on that farm. And when nearly six million farmers are carrying it out on their individual farms the program is working for the Nation. A national conservation program can succeed only as it is cooperated in by all the farmers.

This job of conservation is being done by farm people themselves in one of the most unusual experiments in economic democracy in our history. The Triple-A program represents a loan of Federal powers to farmers to use in working out the salvation of the soil and the people on it.

In all the world, our conservation is unique. Erosion is a menace everywhere except in western Europe. And in western Europe another type of devastation is now at work. That is the war.

Of all the countries in the world, not at war, this country is best in a position to save and improve its soil on a big scale. Thus, in soil conservation we have an opportunity to build for the future. Through soil conservation, we can maintain our resources, strengthen our defense, maintain and improve our national health and vigor.

We are building in this new world a truly great stronghold for the principles of freedom and democracy. For their part, the farmers of America, farm by farm and county by county are building and holding their soil and the nation's soil -- for today and the tomorrows of the future.

KADDERLY:

Farm and Home friends, in this discussion of agricultural conservation you have heard R. M. Evans, Administrator of the Agricultural Adjustment Administration. Next Tuesday, in this series of broadcasts on "Today's Soil for Today and Tomorrow," we'll hear from three farmers who make up the County Agricultural Conservation Committee of Fond du Lac County, Wisconsin. These farmer-committeemen will report how the seeding of alfalfa is helping the soil and helping people.

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TODAY'S SOIL FOR TODAY AND TOMORROW

No. 2 - Seeding Legumes

A radio discussion among Flint H. Jones and Frank A. Lohse, dairy farmers from Fond du Lac County, Wisconsin, and Everett Mitchell, National Broadcasting Company, broadcast Tuesday, January 23, 1940, in the Department of Agriculture period, National Farm and Home Hour.

---ooOoo---

MITCHELL:

From Washington a week ago today, we heard the first broadcast in a new series called "Today's Soil for Today and Tomorrow." R. M. Evans, Administrator of the Agricultural Adjustment Administration, gave his views as to the meaning of the nation-wide conservation movement. Today we're going to hear how the farmers in one county are conserving their soil. Here in the Chicago studios of NCB are two farmers from Fond du Lac County, Wisconsin -- Fond du Lac County in the fertile Fox River Valley - on Lake Winnebago - in the land where streams run north, into Green Bay. These men from Fond du Lac County are Flint H. Jones and Frank A. Lohse. They have been elected by the farmers of Fond du Lac County to help run the nation-wide Agricultural Conservation Program as adapted to their county.

Mr. Jones, whenever anybody says Wisconsin, we immediately think of dairying. Are you a dairy farmer?

JONES:

Yes, Frank Lohse and I are both dairymen.

MITCHELL:

How about the other farmers in the county . . . do they all keep dairy cows?

JONES:

Well, you might say we keep the cows. But we try to make the cows keep us.

MITCHELL:

It works two ways, doesn't it? You keep the cows, and the cows keep you.

JONES:

That's the idea. But to answer your question about how many of us in the county are dairymen . . . we all are. Most of us also grow some cash crops, but first of all, we're dairymen.

MITCHELL:

Well, if you're all dairy farmers, Fond du Lac County must turn out a lot of milk. How much milk does the county produce?

JONES:

Better put that question to Frank Lohse. He has charge of statistics for this team.

MITCHELL:

All right. What are the figures, Mr. Lohse?

LOHSE:

Fond du Lac County produces right at 364 million pounds of milk a year. That's almost exactly 1 million pounds a day.

MITCHELL:

Think of that! A million pounds a day. Why, if you sold all that as fluid milk, you could provide a quart of milk a day to half a million people. How many farms and how many cows does all this milk come from?

LOHSE:

Let's see . . . we have around 4200 farms in the county . . . and 58,000 head of cattle.

JONES:

Incidentally, our cattle population is just about the same as the human population of the county.

MITCHELL:

A cow for each person. That means your cows provide food for lots of people outside the county.

JONES:

That's right. Our average cow produces 6400 pounds of milk a year, containing 214 pounds of butterfat. In the herd improvement associations, the cows average 8500 pounds of milk with 314 pounds of butterfat. So you can see we have plenty for ourselves, cream to ship to Chicago, cream for our creameries to make into butter, milk for the condenseries to condense and can, and milk for that Wisconsin cheese that we hope everybody knows about.

MITCHELL:

Well now, all this milk and cream and cheese require pasture and hay and grain . . . and soil that will grow these crops. We know that. And we also have heard that dairy farming is the best kind of farming there is, for the soil. Mr. Lohse, I suppose you agree with that.

LOHSE:

I think dairy farming is the best kind of farming for the soil. But we lose our soil, and we lose our soil fertility, even on dairy farms. We used to think all we had to do to conserve our soil was just to operate dairy farms. Even the experts told us that.

MITCHELL:

What made you change your minds?

LOHSE:

Lots of things did. Just as a little example, one of my fields on a side hill has a rock sticking clear out of it. When I bought the farm in 1907, that rock was under the soil. I remember it because I had to jump the plow over it.

JONES:

You know, Frank, the old settlers used to say the stones came up out of the ground.

LOHSE:

I know they did. But I'm convinced that the soil washes away and uncovers the rock. When I first began to plow around that rock, I was plowing altogether in topsoil. Now the plow digs into the subsoil around the rock, which certainly indicates that a substantial part of the topsoil is gone.

JONES:

Of course, we don't have a lot of that kind of erosion in Fond du Lac County. But we have lost a lot of plant food that we need . . . if we're going to keep on producing milk. Our county agent has a man testing soils under a WPA project. The other day I was looking at the information those tests had uncovered.

MITCHELL:

What did they show?

JONES:

The tests this man made during the past year show that 50 percent of the soil tested has to have lime added in order to grow good crops of alfalfa; 65 percent needs phosphate; and 54 percent needs potash. Our soils need these materials in spite of the fact that many of us use a good deal of lime, put commercial fertilizer on with our cash crops, and use all the manure on the land. Milk, and the bones of cattle, cash crops and erosion use up these materials. The soil must have these plant foods to grow alfalfa. And we must have alfalfa to stay in business.

LOHSE:

Flint, there's another example of what has happened to soil. Tell Mr. Mitchell about that farm that was appraised.

JONES:

Oh yes. A farmer in the county wanted to buy a certain farm under the tenant purchase program. On the basis of crop production the last few years it was appraised at \$10,500. But when the soil was tested the tests showed the back 60 acres would have to have \$600 worth of phosphate before it could be farmed profitably in the future. The tests showed other things, too. To make a long story short, the purchaser finally got an option on the land at \$7550 instead of \$10,500.

LOHSE:

That figure of \$7550 is more in line with what the land will produce. That farm undoubtedly was worth \$10,500 at one time, but the soil isn't so good as it used to be . . . after all these years of use as a dairy farm.

MITCHELL:

Well, evidently even the dairy farmer can't just go along and expect the soil to take care of itself.

JONES:

That's the point exactly. We have to do things for the soil -- things that we haven't been doing. And in Fond du Lac County we have set out to do some of those things. We have carried out one particular soil-building practice on a big scale.

MITCHELL:

What practice is that?

JONES:

We have seeded many additional acres to alfalfa.

LOHSE:

I'll say we have. Back in 1932 we had 5,600 acres of alfalfa in the county. In 1936, we had 32,000 acres. And now we have 35,000 acres in alfalfa. We have used the conservation program to help us do some of the things our county agent and the State Extension Service have been recommending all these years.

MITCHELL:

What had the farmers been growing on the land that they began seeding to alfalfa?

LOHSE:

Such crops as oats and barley, and other crops that wear out the land more than alfalfa does. We will continue to grow those crops on some land, but we must also apply limestone, phosphate, and potash on soils where they are needed and, in addition, grow crops that help the land. A few years ago we had 216,000 acres in soil-depleting crops. Now we're growing soil-depleting crops on only 195,000 acres. We only lack 2 percent of having our soil-depleting crops within our allotment. We now have 125,000 acres in soil-conserving crops, and that's about 40 percent of all our cropland. As I just said, 35,000 acres are in alfalfa.

MITCHELL:

35,000 acres of alfalfa. If you need that much, how did you ever get along with 5,600 acres, as you did in 1932? What about that, Mr. Jones?

JONES:

When the county was short of alfalfa, farmers bought their protein feeds in concentrated form and piled up debts for feed. The land that should have been in soil-conserving crops was in cash crops and in the less desirable feed crops. Some farmers were trying to feed corn stalks and straw. But that doesn't work. We need alfalfa for the cows, and we need it for the soil.

MITCHELL:

Alfalfa certainly has a good reputation as a soil-saver and soil-builder, when it's used properly.

JONES:

And it deserves its reputation. Of course, alfalfa uses lime, phosphate, and potash. But it obtains most of the nitrogen necessary for growth out of the air, and the residue and roots of alfalfa remain in the soil to provide nitrogen and other plant food for other crops to use. Alfalfa, because it has numerous long roots, hold the soil in place, improves soil texture, and increases the organic matter in the soil. And it makes wonderful hay and silage. It's just what we need.

MITCHELL:

Do you mean that you need even more alfalfa than you have?

JONES:

Yes, we need more, and we'll have more now that we've got started. Last year the farmers in our county made new seedings of alfalfa on 16,500 acres. That's the most alfalfa we've ever seeded in one year. In preparing land for legumes, our farmers applied more than a thousand tons of limestone. Last year in Fond du Lac County, the farmers earned all of the soil-building payments the program provided. In addition, they made seedings that would have earned payments half again as large. County Agent Massey is drumming day after day on how we need to use more lime and phosphate to grow more acres of legumes and we're going right along with him. We want more legumes, especially alfalfa.

MITCHELL:

Well, power to you. And now just one more question. Mr. Lohse, would you advise farmers all over the country to follow the example of Fond du Lac county, Wisconsin, and grow more alfalfa and other legumes?

LOHSE:

I don't think that would be quite the right kind of advice, Mr. Mitchell. We need alfalfa. Other farmers may need something else. In 1938 farmers in the United States seeded over 30 million acres to soil-conserving crops. But that isn't all there is to conservation. Some parts of the country need to put the emphasis on erosion control practices -- such as terracing and contour farming. Seems to me the important thing is to find out what you need to do locally, and then do it.

MITCHELL:

Farm and Home friends, Frank A. Lohse and Flint H. Jones of the Fond du Lac County, Wisconsin Agricultural Conservation Committee have reported to us on legume seeding as a soil conservation practice. Next Tuesday at this time the series on Today's Soil for Today and Tomorrow will bring us a report from county conservation committeemen of Tennessee -- a report on conservation through the use of lime and phosphate on the soil. If you would like a copy of today's broadcast and copies of the other reports in this series, address a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the broadcasts on Today's Soil for Today and Tomorrow.

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 3 - Using Lime and Phosphate
to Improve Soil

Broadcast in the Department of Agriculture portion, National Farm and Home Hour, Tuesday, January 30, 1940.

Participants: F. E. Roberts, Gibson County, Tennessee; Tom True, Robertson County, Tennessee; Ed W. Sivils, McMinn County, Tennessee; and Wallace L. Kadderly, Chief of Radio Service, USDA.

KADDERLY:

Here we are in Washington---to bring you a story from a State that lies between the Mississippi River on the west and the Smoky Mountains on the east---the State of Tennessee...600 miles long, 150 miles wide...a State of many variations in climate and soil and kinds of farming. The people of Tennessee will tell you their State is divided into three distinct parts: East Tennessee--from the Smokies westward to the Cumberland Mountains. Middle Tennessee--from the Cumberlands on westward to the Tennessee River as it cuts through the State for the second time on its way northward to the Ohio; and West Tennessee--between the Tennessee River and the Mississippi River.

In the series on Today's Soil for Today and Tomorrow, we now hear from three Tennessee farmers, one from each of these parts of the State. Each is a member of a county committee, elected by the farmers of the county, to help conduct the Agricultural Conservation Program. They are here to tell you about lime and phosphate ... the way farmers in their counties are using lime and phosphate, enabling the soil to grow the conserving crops needed by Tennessee farmers. One by one, I'm going to ask these men from the native State of Andrew Jackson, Davey Crockett, and Sam Houston to tell us a little bit about the type of farming in their counties. After that we'll talk about lime and phosphate.

First, the man from the Valley of East Tennessee..Ed W. Sivils of Calhoun in McMinn County. Mr. Sivils, what crops do you grow in McMinn County?

SIVILS:

We grow Burley tobacco all over the county. In the southern half of the county, we grow cotton. On the rich bottom lands, we grow corn. And we also produce milk. We sell milk to Chattanooga, and some to Knoxville. We grow just about every crop that's produced all the way from the tropical line in Florida to the northern plains of Canada.

KADDERLY:

You told me a little while ago you are living on the farm where you were born...and have been on it all of your 67 years.

SIVILS:

Yes sir. My grandfather, my father, and I have lived on the same farm 118 years. However, McMinn County doesn't have the oldest farm land in the State. Some land in East Tennessee was farmed in the 1700's.

KADDERLY:

Now the man from Middle Tennessee--Tom True of Orlinda in Robertson County. That's not only middle but also northern Tennessee, isn't it, Mr. True?

TRUE:

That's right, Mr. Kadderly. Robertson County is northwest of Nashville, right on the Kentucky State line.

KADDERLY:

And what's the farming like in Robertson County?

TRUE:

Dark tobacco is our cash crop. South of us, they grow Burley tobacco. In Robertson County, and throughout middle Tennessee, we have quite a bit of livestock, and we're one of the biggest wheat counties in the State.

KADDERLY:

Is yours newer farming country than Mr. Sivils'?

TRUE:

No, ours is older. Some of the land in Middle Tennessee has been farmed for 150 years.

KADDERLY:

150 years is a long time.

TRUE:

Yes...but it doesn't take 150 years to wear out a lot of soil.

KADDERLY:

Now we come to West Tennessee, and we have F. E. Roberts of Trenton in Gibson County...Mr. Roberts, if you please sir, tell us a little about Gibson County and West Tennessee.

ROBERTS:

Well, most people think of West Tennessee as cotton country. Over on the Mississippi River, there's delta soil that ranks as some of the best cotton land in the world. But in Gibson county we have diversified farming. We grow cotton, but we also grow vegetables--tomatoes, cabbage, strawberries, and sweet potatoes. We have some dairying, and raise a few hogs, beef cattle, and sheep. We also grow hay and grain enough to feed 'em.

KADDERLY:

I understand Gibson County has an outstanding record in the application of lime to the soil. You've just said you have diversified farming. Now, would you say that this accounts for the large amounts of lime used in your county.

ROBERTS:

No, I don't think so....We've had diversified farming for some time, but we've just started using large amounts of lime. We didn't start using much lime until our County Triple-A committee and our program planning committee decided to put on a liming campaign. And we couldn't have gone very far without having lime as a grant-of-aid.

KADDERLY:

Mr. Roberts, why did you and the other committeemen decide to put on a liming campaign?

ROBERTS:

We could see our county ought to have more alfalfa, red clover, crimson clover, and other deep-rooted legumes. And we had learned that the soils didn't have enough calcium to grow these crops. Our soils had become sour.

KADDERLY:

And you're getting the calcium (the lime to sweeten sour soil) as a grant-of-aid through the Triple-A.

ROBERTS:

That's right. What we mean by "grant-of-aid" is that we take the liming material in place of money for part of the payment we earn under the program.

KADDERLY:

Did farmers of the county take right up with the idea--this idea of obtaining lime and applying it on their soil?

ROBERTS:

They did as soon as they understood the need of it. And we made sure everybody found out about it. Our Triple-A committee and every agricultural worker in the county started talking up lime and telling farmers how they could get it. Back in 1936 we only used a little over 4,000 tons of liming material. In 1938 we used about 8,000 tons. But in 1939, after we had stirred up interest we used more than 28,000 tons.

KADDERLY:

That's almost incredible...a jump in the use of liming material from 4 thousand tons in 1936 to more than 28 thousand tons in 1939.

ROBERTS:

That's over 600 percent.

KADDERLY:

600 percent increase!

ROBERTS:

Yes sir. And that lime on the soil makes our conserving crops grow about 600 percent better.

KADDERLY:

I don't doubt it.

ROBERTS:

We're going to use more in 1940. We've already ordered half as much as we used last year, and it's still January.

KADDERLY:

Another increase coming up...And now let's go back to Robertson County in Middle Tennessee. Mr. True, did you also have a big increase in the use of lime in 1939?

TRUE:

Yes we did. Our county had been using maybe 3 to 5 thousand tons of lime a year, and in 1939 we jumped up to about 14,000 tons...14,426 to be exact. We didn't have lime as a grant-of-aid in 1939, but we expect to in 1940. And we're talking up lime every chance we get. We've set our sights on 50 thousand tons in 1940.

KADDERLY:

Well I hope you get there. You did have phosphate as a grant-of-aid in 1939, didn't you?

TRUE:

Yes, every county in the State had that.

KADDERLY:

How'd you come out?

TRUE:

We used 300 tons of triple superphosphate in 1939...on soil-conserving crops...We hadn't used any phosphate this way before the program started.

KADDERLY:

Then you've jumped from nothing to 300 tons of concentrated phosphate.. Well, tell me, Mr. True, can you see any results from spreading all this lime and phosphate on the land, and growing conserving crops instead of depleting crops?

TRUE:

I'll tell you the truth, Mr. Kadderly: there's land in my neighborhood that looks a whole lot better than it did before...I reckon it looks twice as good.

KADDERLY:

Where crops have taken most of the calcium and phosphorus out of the soil, it certainly shows up when you replace those materials, doesn't it? Now let's see what's been going on in McMinn County, East Tennessee. Mr. Sivils, what's your county doing with lime and phosphate?

SIVILS:

Well sir, we used a great deal of limestone in 1936--more than we ever had before. But we've gone up from 2,300 tons in '36 to 8,000 tons in '39. That's between 3 and 4 times as much. We jumped our use of phosphate from 250 tons in 1936 to more than 2,000 tons in '39. Along with this, we're growing almost twice as many acres of alfalfa and about 4 times as much red clover. When I was a boy, red clover grew wild. Then for a long time we couldn't grow it at all. With lime, we're growing it successfully again.

KADDERLY:

Can you see any results from the use of phosphate?

SIVILS:

Sure. Suppose you look across a field in the fall and see half of the field yellow and half of it green. The yellow part is broomsedge. The green part is tame grass. Where you see the green grass...that's where phosphate has been applied, and the grass has choked out the yellow broomsedge.

KADDERLY:

I've just been wondering...with the increased quantities of lime and phosphate you men have been talking about how much more of those materials will be needed to bring your soils back to normal?

SIVILS:

We've just made a good start in East Tennessee.

TRUE:

The same goes for the rest of the State. We've just started getting our soil into good shape.

KADDERLY:

Mr. Roberts, you said your county used 28 thousand tons of lime in 1939. How many carloads was that?

ROBERTS:

584 cars. If all those cars had come in at one time, we would have had a train 5 miles long.

KADDERLY:

A trainload of lime 5 miles long....Well, Farm and Home friends, these reports indicate what farmers are doing to improve their soil---the Nation's soil---through the use of lime and phosphate. Farmers not only in Tennessee but throughout the country are rapidly increasing their use of lime to sweeten sour land...and phosphate to furnish the plant food needed to grow soil-conserving grasses and legumes.

In this report on soil conservation in Tennessee, you have heard F. E. Roberts of Gibson County, Tom True of Robertson County, and Ed W. Sivils of McMinn County---all are county agricultural conservation committeemen.

Our series on Today's Soil for Today and Tomorrow continues next Tuesday with a report on conservation through growing perennial grasses. Oregon farmers will give the report in a broadcast from Portland.

If you would like a copy of today's broadcast and others in this series, address a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the ~~reports on~~ today's soil.

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TODAY'S SOIL FOR TODAY AND TOMORROW

No. 4 - Seeding Perennial Grasses

Broadcast Tuesday, February 6, 1940, in the Department of Agriculture portion, National Farm and Home Hour, from Portland, Oregon.

Participants: Carrol Barker and Charles Nish, county agricultural conservation committeemen, Gilliam County, Oregon; and C. W. Harris, Condon, Oregon, businessman.

---ooOoo---

CHICAGO ANNOUNCER:

Now --- to continue the Tuesday series on Today's Soil for Today and Tomorrow. In this series, farmers in various parts of the country are reporting to you on their local use of soil-building practices under the nation-wide Agricultural Conservation Program. Today's report has to do with one soil-building practice--the seeding of perennial grasses,---and we'll hear from one county.

To bring you this report, we take you now to Portland, Oregon.

PORTLAND ANNOUNCER:

Welcome to Portland---and good morning.

To illustrate what farmers in the Pacific Northwest are doing to keep "Today's Soil for Today and Tomorrow," three men from central Oregon are going to discuss their experience with crested wheat grass. These men are from Gilliam County along the Columbia river...a high plateau country cut by deep canyons. Once all this was range land--covered by native bunch grass. It was livestock country. Livestock is still important there. But today Gilliam County stands fourth in Oregon's acreage and production of WHEAT.

As wheat came in, grass went out. The loss of grass raised a problem. We're going to hear about that problem, and efforts to solve it. The three men from Gilliam County are Carrol Barker, C. W. Harris, and Charles Nish.

Mr. Barker, I have you listed as chairman of your county agricultural conservation committee...

BARKER:

That's correct, Mr. Tomlinson. Charlie Nish and I are both on the county committee.

ANNOUNCER:

And Mr. Harris...I have you down on the list as a business man...

HARRIS:

I'm in the building supply business--hardware and lumber--in Condon, our county seat.

NISH:

Cliff doesn't farm... But out in our country, the business men know their business depends on farming and on farm land---so we asked him to come along and talk for the business men.

ANNOUNCER:

Good enough, Mr. Nish. So the business men of Gilliam County take a real interest in farming, do they?

NISH:

You bet...Soil conservation is a sort of community business in our county.

ANNOUNCER:

Soil conservation is community business in Gilliam County... Well, I've observed that any community enterprise has a reason behind it. Mr. Barker, as chairman of the agricultural conservation committee in Gilliam County, you should be able to give us that reason---why you need soil conservation.

BARKER:

You partly answered that yourself....when you described the county. You said our country is a high plateau cut up with deep canyons. It used to be all range land with lots of bunch grass.

Then we put the level top lands into wheat. But we didn't stop there. We put poor land into wheat too. On account of the homestead laws---and the World War---and maybe a little too much ambition, we plowed up a lot of land besides level top land. For example, we plowed up shallow land along the brakes and canyons. It looked pretty good at the time, but it wouldn't hold up in wheat.

NISH:

You see, Mr. Tomlinson, in our country there's a sort of natural balance between good crop land and good grass land---and we got it out of balance. We got too heavy on wheat.

ANNOUNCER:

So now you're trying to build up the grass side again...

NISH:

That's just about it. With the drier years and lower wheat prices, we found that some of the shallow land didn't pay out. It wouldn't raise enough wheat to pay expenses. In most years, the good land on the farm had to carry the poor land.

BARKER:

There was another thing, too, Charlie...With so much land in crops, we had plenty of winter feed for our livestock---but not enough grass.

ANNOUNCER:

This shallow land that Mr. Nish mentioned--with a lot of it down on the brakes of the canyons---I suppose some of that was pretty steep. Didn't you lose some of that soil? Didn't it wash away when you had it in wheat?

NISH:

Well, some washed away. Of course we only get about 12 inches of moisture a year---but if it doesn't come right, it can wash a lot of soil. Still, we didn't think so much about the loss of soil for quite a while. At first we thought more about what to do with the poor wheat land.

ANNOUNCER:

Why didn't you just put that land back into grass, then?

NISH:

To tell the truth, there just wasn't any grass that would do the job. There wasn't any grass that could get started with so little moisture--and stand up for pasture in dry weather---like our old native bunch grass---and bunch grass just doesn't make enough seed for this work. We had to wait until we found crested wheat grass.

ANNOUNCER:

Until you found crested wheat grass...And where'd you find that?

NISH:

Well, we didn't just find it. Our experiment station and extension service were hunting for a good grass to use---trying out different kinds. One grass that showed up well was called crested wheat grass. It originally came from Siberia, they say---brought over here about 40 years ago by a plant explorer for the U. S. Department of Agriculture.

As a result of those trials at the experiment station, a couple farmers in our county tried crested wheat grass in 1930.

BARKER:

But that didn't look very good to us at first, though.

NISH:

That's true, Carrol, it didn't at first.

BARKER:

And that was another thing we found out. Sometimes crested wheat grass doesn't look very good the first year---or even two years. Those first trials didn't either. In fact, by 1933 there were only 6 acres of it in the whole county.

NISH:

After that, though, it really took hold.

BARKER:

You bet it did. This past year, we had over 30 thousand acres of crested wheat grass.

ANNOUNCER:

What's that you said? Only 6 acres of crested wheat grass in 1933---and 30 thousand acres in 1939?

BARKER:

That's right.

ANNOUNCER:

Well---what happened?

BARKER:

Remember what Nish said about conservation being a community proposition?

ANNOUNCER:

Yes....

BARKER:

And that the business men take a hand in it, too?

ANNOUNCER:

Yes....

BARKER:

Well, this is just an example---farmers and businessmen both got together to give crested wheat grass its first real trial in the county. That was in 1933---But I'd like to have Cliff--Mr. Harris, here---tell that part of the story---he's one of the businessmen.

ANNOUNCER:

By all means, Mr. Harris.

HARRIS:

Oh, I don't think we can take too much credit in this deal. We helped all right. But a few farmers and the extension service and experiment station had done the spade work. Then, when more farmers wanted to plant crested wheat in the fall of 1933---seed was hard to get, especially in small lots. Some of the Condon businessmen put up the money---and bought a thousand pounds of seed. That seed was sold locally to the farmers. This buying and selling didn't cost us anything---But it saved the farmers some money. And we all got a lot out of it.

ANNOUNCER:

Tell me...just how did you business men get a lot out of it?

HARRIS:

Up in our country, Mr. Tomlinson, our sales go up and down right along with farm income. I've got a sales record book that I've kept day by day for a good many years. Why, I can look at the sales book and just about tell you the amount of rain we had---the size of our wheat crop, and the price the farmers got for it. So you see, if we can help stabilize the income of the farmers---we help stabilize our own business as well. That's what we've tried to do by helping the farmers get started with crested wheat grass.

ANNOUNCER:

Well now, you've already said that there were only 6 acres of this crested wheat grass in Gilliam County by 1933. But in 1939 your farmers out there had 30 thousand acres seeded down to crested wheat. That's a big jump. I'm wondering what happened in those intervening years---Mr. Barker, will you fill in that part of the story?

BARKER:

Well, we got off to a good start in 1933 with the seed that the business men helped us get. That same fall we got a county extension agent, and he kept pulling for crested wheat, too. By 1935 we had 250 acres of the grass on about 25 farms. And by that time we knew crested wheat would do the job---but we needed some way to do it on a big scale.

ANNOUNCER:

Evidently you found the way to do it.

BARKER:

Yes, in 1936---when the agricultural conservation program was started---that was the boost we needed. Triple-A conservation payments helped foot the bill---and we put 10 thousand acres back into grass that one year alone. Since then we've brought the total up to 30 thousand acres. That's about 12 percent of our cropland. It really amounts to 16 percent of our wheat land...In other words, we've put away 16 percent of our wheat land...and we're conserving it with grass.

NISH:

Carrol, I'd like to add that this crested wheat isn't just ordinary grass. It's fairly easy to get started---greens up early in the spring---and greens up again in the fall. What's more, the livestock like it---and it makes good pasture.

BARKER:

Charlie, the thing that strikes me most about crested wheat is that it will take more abuse than anything I ever saw.

NISH:

That's sure right. It'll stand drought and heat and cold and heavy grazing...

BARKER:

Most years, it makes a good seed crop too.

NISH:

Yes, we've raised quite a bit of seed here, already. And another thing---it ties down the soil---like on those steep slopes along the brakes. The Soil Conservation Service uses crested wheat for erosion control work, too, I notice..

ANNOUNCER:

The story of crested wheat sounds like a success story from the farmer's standpoint...how's it working out from the business man's standpoint, Mr. Harris?

HARRIS:

Well, we feel mighty good about it, too. We think it's helping do the thing I mentioned a moment ago---stabilize the farmer's income. Of course crested wheat grass won't make all the farmers rich just by itself---but it's helping restore the balance between crop land and grass land. That means steadier income for the farmers---and for us businessmen in Gilliam County, too. Farmers are the best spenders in the world, when they've got the money. We know,---we live so close to them.

ANNOUNCER:

Would you say the farmers have just about completed the job of restoring this natural balance?

HARRIS:

No, I'd say they've just made a good beginning. You agree with that, Barker?

BARKER:

Absolutely...we've got a good ways to go, but we're on our way. That goes for a lot more counties besides Gilliam County. Farmers in many parts of the country face the same problem we have faced...

ANNOUNCER:

You mean the problem of restoring balance between crop land and grass land?

BARKER:

Yes. In other parts of the country, farmers are using other grasses and other soil conserving crops. Out here in the Columbia Basin of the Pacific Northwest, we're putting a good share of our conservation payments into crested wheat grass. In fact, in the Pacific Northwest farmers have already seeded 150,000 acres to crested wheat. And it's doing the job. I understand it's also going a good job for the farmers in the northern Great Plains.

PORTLAND ANNOUNCER:

Farm and Home friends, in this report on the seeding of crested wheat grass as a soil-building practice under the Triple-A conservation program, you have heard Carrol Barker and Charles Nish, members of the Gilliam County, Oregon, agricultural conservation committee, and C. W. Harris, a Gilliam County businessman.

This report has reached you from Portland...we return you now to Chicago.

CHICAGO ANNOUNCER:

Thank you, and here we are back in Chicago.

Farm and Home friends, let me remind you that this report from Gilliam County, Oregon, was one in the Tuesday series on Today's Soil for Today and Tomorrow. If you'd like to have a copy of this report and others in the series, address a card or a letter to the Department of Agriculture, Washington, D. C. The series continues next Tuesday with a report by Mississippi farmers on their use of winter cover crops for soil conservation and soil building.

TODAY'S SOIL FOR TODAY AND TOMORROW
No. 5 - Winter Legumes

Broadcast Tuesday, February 13, 1940, in the Department of Agriculture period, National Farm and Home Hour from Washington.

Participants: Jim Gray and Pete Williams, Members of Coahoma County, Mississippi, Agricultural Conservation Committee, and Wallace L. Kadderly, Radio Service, USDA.

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KADDERLY:

Now for another installment in the series "Today's Soil for Today and Tomorrow".....a series in which we are getting a cross-section of the nation-wide action under the Triple-A farm program to conserve and build soil.

Last Tuesday we heard from the Far West...as three men from Gilliam County, Oregon, told how farmers in that county have put aside 30 thousand acres of wheat land under the protective cover of perennial grass--crested wheat grass.

Today we shall hear from Coahoma County, Mississippi---one of many Southern counties where farmers are conserving and building soil by growing winter legumes. To make this report we have with us Pete Williams and Jim Gray, members of the Coahoma County Agricultural Conservation Committee. They have been elected by the farmers of the county to represent them in the local administration of the Triple-A program.

Now, the soil-building work done in the Coahoma County, Mississippi, shows up in many different ways. But I'm told that one of those ways is the actual appearance of the countryside. How about it, Mr. Gray...does the country really look different from the way it used to look?

GRAY:

Yes, it really does, Mr. Kadderly.

KADDERLY:

In what way?

GRAY:

If you had traveled over the county a few years ago at this season, you would have seen a brown countryside. Now, a brown countryside seemed perfectly natural. It was just a part of the winter season to see the land covered only by dead cotton stalks and dead corn stalks. But travel over the county this winter, and you see thousands of green fields. Green all winter long.

KADDERLY:

And that green color comes from winter cover crops...

GRAY:

That's right...winter cover crops.

KADDERLY:

You said "thousands of fields" are green this winter. How many acres of land in the county are in winter cover crops?

GRAY:

Well, last winter we had over 60,000 acres. We have more than that this winter---but I don't know the exact acreage.

KADDERLY:

How many years has it been since the countryside was brown in winter... in other words without cover crops?

GRAY:

Only six or seven. In 1930, '31, and '32 we had a few acres in winter legumes as a sort of experiment or demonstration...about 5,000 acres on the average in all soil-building crops--winter and summer legumes together.

KADDERLY:

And since 1932 the acreage of these legumes has been going up?

GRAY:

Yes...gradually at first...and then more rapidly. Last year we had 75,000 acres of winter and summer legumes.

KADDERLY:

Then in 7 years the acreage in soil-building crops has gone from 5000 to 7500---increased 15-fold...with more than 60,000 acres now in winter cover crops...And your county is just one of many counties in the South that have been increasing their acreage of soil-building crops.

What crops do you use for winter cover, Mr. Gray?

GRAY:

Bur clover mostly. But we also plant vetch and Austrian winter peas.

KADDERLY:

Bur clover, vetch, and winter peas...crops that hold the soil in place during the winter.

GRAY:

Yes, they do hold the soil in place. Of course, our county is mostly flat. But the winter rains do skim off our topsoil unless we protect it. Winter legumes hold the soil all right. But they do more than that. They increase our soil fertility and boost our income.

KADDERLY:

So you do need winter cover crops. Now let's back up a little and get some general information about Coahoma County...Where it's located and in general what it's like. In other words a little brushing up in geography. Mr. Williams...you check me on these facts. First of all...this is a Mississippi Delta county.

WILLIAMS:

Right. And that just about tells the story.

KADDERLY:

Well, we can add that you are about 70 miles south of Memphis and that the Mississippi River is your western boundary, separating you from Arkansas.

WILLIAMS:

You have it down pat.

KADDERLY:

Well, to tell the truth...I looked at a map only an hour or so ago. What about your soil?

WILLIAMS:

We have good soil...mostly loam deposited as silt from the river for hundreds of years.

KADDERLY:

Silt from the waters of the Mississippi, coming down from its source and its tributaries...down from the farm lands of Minnesota and Iowa, down from Kansas and Missouri, from Ohio, Kentucky and Tennessee. Topsoil from the watersheds of dozens of streams.

Mr. Williams, it seems to me that's one of the most interesting and most famous stories of soil formation in the whole country...The formation of the soil that makes up the cotton farms of the Delta.

WILLIAMS:

Yes, a lot has been written and said about Delta soil. Also about Delta cotton. But of course our land hasn't always been in cotton. Before Coahoma county was settled, it was in forest...cypress and oak and gum.

KADDERLY:

Is all that forest gone now?

WILLIAMS:

Practically so. We still have some cypress in the brakes.

KADDERLY:

The brakes? What are they?

WILLIAMS:

That's what we call the low places. We also have a good many trees along the bayous, and you'll find some woods outside the levees...

KADDERLY:

Outside the levees?

WILLIAMS:

By "outside" we mean between the levee and the river.

KADDERLY:

I see...Well, at any rate, the forest has been cleared off the land that can be cultivated.

WILLIAMS:

Yes, and on some land that should not have been cultivated. We have land in cultivation that should be in trees. On some of that land the forest will come back of its own accord if we give it a chance. But in some places we'll have to start planting trees. And we'll do it some day, too.

KADDERLY:

How long has it been since the whole county was forest?

WILLIAMS:

Around a hundred years, I'd say. The land in the county has been farmed for...oh, 50 to 100 years. Cotton was the main crop right from the start.

KADDERLY:

Well, Mr. Williams, I think that gives us a pretty good idea of the county, a background against which we can see the results of growing soil-building crops, especially winter cover crops. You have told us that the land is flat except for the lowlands or brakes, and the bayous. You've referred to the levees which protect your lands and homes from flood. And we know the farms have been cleared from forests, opening up rich Delta soil, highly productive of cotton.

WILLIAMS:

A few years ago, Mr. Kadderly, we were seriously doubting the productivity of our soil. In 1928 to '32, our yield average was only 223 pounds of lint cotton per acre. That was much less than our soil formerly produced.

KADDERLY:

Let's see now...1928 to '32 are the same years Mr. Gray mentioned when he said the acreage of soil-building crops in the county was very small. Give us that acreage again, will you, Mr. Gray?

GRAY:

I said that in 1928 to '32 we had only 5,000 acres of soil-building crops in the county. Along with that small legume acreage, as Mr. Williams just said, we had a low yield of cotton...only 223 pounds per acre, as an average.

Last year we had 75,000 acres of soil-building crops. And our average yield of lint per acre was 460 pounds. For the past 5 years our average yield was 400 pounds.

KADDERLY:

And the average was 223 pounds from 1928 to 1932. That's a yield increase...of...let's see if I can figure it quickly...

GRAY:

80% to be exact.

KADDERLY:

A yield increase of 80 percent...and that's an average you say, for all farms in the county...and not for just one year, but an average of five consecutive years. How on earth did you do it?

GRAY:

Well, here's what happened. Back in the late 20's a man in our county - Mr. H. H. Hopson - was growing bur clover as a winter cover crop. Our county agent, Harris Barnes, had been wanting to get winter cover crops started in our county, but this was hard to do. We couldn't grow our own seed of vetch and winter peas, and the seed was scarce. Well, when Mr. Barnes saw the results Mr. Hopson was getting with bur clover and found we could grow our own seed, he got busy. He got some farmers to try out bur clover and asked other farmers, and businessmen to watch the results. Those who followed the demonstrations were sold 100 percent on winter cover crops. But that didn't get the job done. In the first place income was very low. Everybody was badly in debt. Cotton was bringing only 5 cents a pound. We just couldn't see how we could stand the expense of growing cover crops. That took money. And we didn't have the money to grow crops that we couldn't sell for cash. Right at that time the Triple-A program came along. We cut our cotton acreage, and our Triple-A payments helped us get started on our legume program.

WILLIAMS:

Jim, that's how we started our increase in legumes, but that doesn't tell the whole story of how we've increased the yields of cotton, per acre.

GRAY:

That's right, Pete--other things helped to do that.

WILLIAMS:

Mr. Kadderly, I think you would be interested to know we had been growing about 177 thousand acres of cotton. In the last two years we cut that acreage---brought it down to 107 thousand. We've used the best land for cotton, and that in itself brought up the yield per acre. Then, too, we've used better cotton seed and we've used better methods. But the legumes were probably the most important reason for the higher yield.

GRAY:

Pete, we were lucky in lots of ways. We can grow soil-building crops without using lime or fertilizer. And we were lucky we could grow bur clover...because with bur clover we could save our own seed.

KADDERLY:

Speaking of seed. You folks in Coahoma County grow some vetch and Austrian winter peas as well as bur clover. So you're probably interested along with other Southern producers in the vetch and winter pea seed-growing program. You gentlemen know, of course, that the Triple-A is encouraging farmers in the Pacific Northwest to grow more vetch and winter pea seed; so

there'll be more of those seeds for Southern farmers to use.

WILLIAMS:

Yes, and that ought to do a lot of good. The South needs a lot more land covered with vetch and winter peas during the winter.

KADDERLY:

Well now to get back to Coahoma County's results in conserving soil...you've told us about your increase in soil-building crops and your increase in cotton yields per acre. There's just one other thing I want to ask...One of you brought out the fact a little while ago that your cotton adjustment and soil-building program has boosted income. How much Mr. Williams?

WILLIAMS:

About twice as much. Here are the figures. Our county had an average cash farm income in 1930, '31, and '32 of around 3 1/4 million dollars a year. For the last four years, it will average something over 7 million dollars a year.

But cash income doesn't tell the whole story, Mr. Kadderly. Farmers, tenants, and planters are all better off because our county is growing more of its own food and feed. We don't raise now all we need to, but an increase in food and feed for use on the farm, along with more cash income, certainly means a better standard of living.

KADDERLY:

No doubt about that. Farm and Home friends, this account of soil improvement and standard of living improvement in the Mississippi Delta lands of Coahoma County, Mississippi, has been given by Jim Gray and Pete Williams, members of the Coahoma County Triple-A committee.

Farmers in many other counties are now growing winter cover crops as one soil-building practice in the Agricultural Conservation Program. In the State of Mississippi alone, farmers have increased their acreage of winter cover crops from less than 100,000 acres, in 1930 to '32, up to around a million acres in 1938. This report is one in the Tuesday series on Today's Soil for Today and Tomorrow. Next Tuesday, we shall hear from three farmers from Logan County, Illinois. They will discuss soil-conservation through the use of acreage allotments in the conservation program.

If you would like a copy of today's report and of others in this series, address a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the reports on Today's Soil.

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 6 - Acreage Allotments.

Broadcast from Chicago in the Department of Agriculture period, National Farm and Home Hour, Wednesday, February 20, 1940, by 90 stations associated with the National Broadcasting Company.

Participants: Harry S. Martin, Leigh W. Lucas and Ray E. Thompson, members Logan County, Illinois, Agricultural Conservation Committee.

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MITCHELL:

Now, to continue that weekly soil conservation series: "Today's Soil for Today and Tomorrow."

Travel about 150 miles southwest of Chicago and you'll find yourself in the fertile farming lands of Logan County, Illinois. The name of the county seat is Lincoln. And the people of Logan County will tell you the city was not only named after Abraham Lincoln but also was named by him. Since Lincoln named the city, much has happened in Logan County, Illinois. Today the farmers of the county are struggling with modern problems of soil and income...as farmers are in all parts of the nation. Three Logan County farmers are here to discuss what the farmers of the county are doing to meet these problems. These men are: Harry S. Martin, chairman of the Logan County Agricultural Conservation Committee; Leigh (Lee) W. Lucas, secretary of the committee; and Ray E. Thompson, who until recently was treasurer of the committee.

Mr. Martin, before we get into a discussion of problems tell us in a general way what kind of farming you have in Logan County?

MARTIN:

We're mostly cash grain farmers, Mr. Mitchell.

MITCHELL:

You mean you sell most of your grain, outright, rather than feed it?

MARTIN:

We do both. We feed quite a bit of corn, but we sell about 75 percent of our corn for cash. Farmers in a livestock county wouldn't sell more than 25 percent of their corn, I suppose. That's why I'd say we classify as cash grain farmers. But of course such a general statement as that doesn't really give a very good picture of our farming operations.

MITCHELL:

Well, let's try to get that picture...you've already said that besides growing corn you feed some livestock...

MARTIN:

Yes, and we also grow quite a lot of wheat, as a cash crop. We grow soybeans for cash and for turning under. We grow oats for feed and cash; we also grow red clover and sweet clover. And, we have some permanent pasture. But not as much as we had 20 years ago. That will give you a very general picture of our farming operations, but our problems mainly center around making a living from corn production.

MITCHELL:

All right...problems of making a paying proposition out of growing corn. What do you say those problems are?

MARTIN:

Our problems are how to make enough income from corn to stay on the farm and to take care of the soil. You see, we have about the same expenses year after year. When corn prices are low we have to produce more bushels of corn to meet expenses. But when we do that we keep land in corn too long; and yields per acre go down. Income goes down, the soil fertility goes down, and we lose some of our best soil by erosion.

MITCHELL:

Those are far different from the problems farmers had in the days of Abraham Lincoln...

MARTIN:

Yes, these problems are fairly recent in Logan County. Lee Lucas has seen the type of farming in the southern part of the county change entirely.

MITCHELL:

Change, in what way, Mr. Lucas?

LUCAS:

Not so many years ago, I rode a horse across grassland all the way into our town of Mt. Pulaski. That was about 4 miles. Now I guess there isn't over three quarters of a mile of pasture between my home and town.

MARTIN:

Lee, I believe you told me your home place never was farmed very much until around 35 years ago.

LUCAS:

Yes, I did, Harry. And that's true of many farms in the county. For a long time, this was livestock country. The farms were big...not so many farmers. Then about the time of the World War, most people stopped raising so many cattle. They plowed up the pastures, and started farming the land.

MARTIN:

Then pretty soon almost everybody got rid of horses and started farming with tractors and power machinery.

LUCAS:

Yes, that's very general. In my own case...well, I only have two work horses on the place, and they're old ones that I keep for sort of sentimental reasons. Even if they were young ones, you know you can't farm 400 acres with two horses.

MARTIN:

Lee, how big were the corn yields when the grassland was first plowed up?

LUCAS:

Oh, at first we got from 70 to 80 bushels per acre. But a few years ago we were down to 40 and even 30 bushels. Lots of fields in the county show more loss of fertility than that.

MITCHELL:

Mr. Martin, that seems to be an example of what you said a moment ago about yields going down when corn is grown on a piece of land for too long a time.

MARTIN:

Yes--and Ray Thompson here can give you another example of what happens to the soil. At least he told me the other day that our corn farming has ruined the fishing.

THOMPSON:

Well, something has ruined the fishing, Harry. About all the fish there are in the streams are carp. The reason they're in the streams is that they'll live in muddy water and other fish won't. The streams are muddy because we run the water off our farms just as fast as it'll go. We drain the flat land and where we have sloping land, as we have up in our part of the county, the rains carry off the top-soil.

MARTIN:

Ray, I don't know so much about the fishing---but I can tell you something else that happens when corn is grown too long on a piece of land. I have one field that went along for 6 or 8 years without clover. That field got just as hard as a floor. No humus in it. For three or four years, it wouldn't grow much. Finally, I applied limestone and seeded it to clover, and now it's in good shape again.

You see, Mr. Mitchell, we don't have to look very far to see the results of intensive farming.

MITCHELL:

Apparently not, Mr. Martin. But you said a big part of your problem is low income...

MARTIN:

It is, and that part of the problem was worse a few years ago than it is today. Ray Thompson runs a farmers' elevator as well as farming. I'm going to ask Ray to tell you a little bit about our grain prices and income.

MITCHELL:

All right---what's the story, Mr. Thompson?

THOMPSON:

A lot of people think the depression started in 1929. But for farmers the depression started in 1921, or even before that. I saw it happen---right there in that elevator where I bought grain. In May, 1920 corn was \$2 a bushel. Between then and October, 1921 it dropped to 27 cents a bushel. It hit an all-time low of 9 cents a bushel in 1932. Those prices were ruining our income and our soil.---weren't they Harry?

MARTIN:

Yes, they were. And what could we do about it? We had gone in for corn production. We had the land ready. We had our money tied up in the equipment for grain production. We had debts and plenty of them. We didn't know how long the low prices would last. So we just went along the best way we could.

LUCAS:

Harry, I think we were all about like the farmer who told the book salesman he didn't want to buy any book on agriculture. The salesman said the book would teach the farmer how to farm twice as well as he was farming. And the farmer said, "Young man, I'm not farming half as well as I know how, right now." That's about the way it was with us. We couldn't farm as well as we knew how.

MARTIN:

We're beginning to come out of the woods now though, Lee.

LUCAS:

You're right. But we never could have made any improvement without putting more of our land into legumes such as red clover and sweet clover. And the only way we could get more land into legumes was to get part of our land out of corn. The only way we could get land out of corn was to do it together...all of us at the same time...with the aid of payments. Otherwise, each of us was afraid to start...afraid we'd take all the loss and the man with his whole farm in corn would get all the gain.

THOMPSON:

Lee, there was another angle too. Most corn growers, especially those who feed corn, couldn't afford to take a chance on crop failure. Before they put more land into legumes and less into corn, they wanted a reserve of corn on the farm where they could use it later. And not one farmer in a million could afford to tie up his own money--if he had the money--into the kind of reserve he needed.

MARTIN:

Well, those were the problems.

But, Mr. Mitchell---I guess there's always a way, where there's a will. At least, we've got a real conservation program and income program in operation. We have 2800 farms in the county. And 90 percent of them are taking part in the farm program. We have a reserve of 4 or 5 million bushels of corn stored in the ever-normal granary...sealed in cribs on our own farms, or now being sealed there. In addition, the Commodity Credit Corporation has almost 750,000 bushels of corn stored in steel bins in the county as a part of the ever-normal granary. This reserve is right here where we can see it. Our cattle feeders can see it and they can plan their feeding operations with some assurance of more stable prices. That's what they want...stable prices. As a result, we feel very much inclined to keep a good deal of land in clover, and to plant just the acreage of corn called for in our acreage allotments.

MITCHELL:

Acreage allotments...Mr. Martin, I believe this is the first time you've used that term "acreage allotments" in this discussion...Now as I understand it,

the allotments are used by farmers to adjust their acreage of corn so as to prevent the surpluses you men have told about.

MARTIN:

That's correct. For example, my farm's corn acreage allotment is my farm's share of the acreage that's needed in the whole country to grow our national corn supply.

Planting within our allotments gives us a chance to look after the soil and improve our income at the same time.

THOMPSON:

Harry, the other day you showed me some comparisons between farms in the program and farms out of the program. I think that comparison tells the story of what we're doing.

MARTIN:

I think so too, Ray...Here's the way it works out, Mr. Mitchell, on the average. Take two farms of 160 acres each. The farm in the program has about two-thirds of the land in cash crops. The farm out of the program has practically all of the land in cash crops. The yields on the cooperating farm are about 15 bushels an acre higher on corn, 10 bushels an acre higher on wheat. On the co-operating farm, the cash income including payments is about a thousand dollars greater than the cash income on the non-cooperating farm. The co-operator has more income, less expense, and a third of his land in soil conserving crops.

MITCHELL:

A third of his land in conserving crops. You feel, then, that the Logan County farmer cooperating in the farm program is taking first-rate care of his land?

MARTIN:

No, not first-rate. We're really just started in the conservation job we have to do. Most of us need to use much more limestone on our soil, regularly. We need to start using more phosphate. We need to use the more desirable legumes on more of our land. We need to work toward permanent improvement of soil and think less about giving the soil a "shot in the arm" that will last just a short time. There's plenty we need to do. But we have made progress. And we've learned about the value of conservation farming. We're trying to make a better living for our families and leave our land as a real heritage for future generations.

MITCHELL:

Farm and Home friends, in this discussion of soil conservation through acreage allotments and other parts of the Agricultural Conservation Program, you have heard three farmers from Logan County, Illinois. They are Harry S. Martin, chairman of the County Agricultural Conservation Committee, Lee W. Lucas, and Ray E. Thompson.

This broadcast is one in the series on Today's Soil for Today and Tomorrow. The series continues next Tuesday when, from Denver, Colorado, we'll hear western ranchers discussing conservation on the range.

If you would like a copy of today's broadcast and others in this series, send a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the broadcasts on Today's Soil for Today and Tomorrow.

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TODAY'S SOIL FOR TODAY AND TOMORROW

No. 7 - Managing Western Range Land to Conserve Soil, Water and Grass.

Broadcast Tuesday, February 27, 1940, in the Department of Agriculture portion, National Farm and Home Hour, from Denver, Colorado.

Participants: Jim Daly, Campbell County, Wyoming; Andy Nelson, Sheridan County, Wyoming; and George Weaver, Agricultural Adjustment Administration.

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CHICAGO ANNOUNCER:

Now we continue the soil conservation series, "Today's Soil for Today and Tomorrow."

So far in the series, we have heard reports from individual counties in five states...reports on five different soil-building practices carried out by farmers under the Triple-A Agricultural Conservation Program.

Today we're going to hear about a still different type of conservation--the conservation of the great range lands of the west. In Denver, Colorado, three ranchers are waiting...and to bring you their report, we take you now to Denver.

DENVER ANNOUNCER:

Here we are in Denver, right up against the snow-covered Rocky Mountains. From this great range livestock area come thousands of cattle and sheep...meat for millions of tables, leather for millions of shoes, wool for millions of garments. To grow the animals which provide these many necessities, the range operator must have GRASS, and lots of it. The ranchers who are here to tell us about the problems of maintaining and improving the range are two men from Northern Wyoming--Andy Nelson of Sheridan County, and Jim Daly of Campbell County--and one from Colorado--George Weaver of Larimer County.

Now, Mr. Weaver, as I understand it, you operate a ranch here in Colorado, and you also help administer the range conservation program in 13 Western States. Is that right?

WEAVER:

That's correct.

ANNOUNCER:

And Mr. Nelson and Mr. Daly... they're

WEAVER:

They're two of the many good range operators who are working the range conservation measures into their regular operations.

ANNOUNCER:

When you speak of "range conservation measures", Mr. Weaver, just exactly what measures do you mean?

WEAVER:

Well, the conservation measures include deferred grazing---that is, giving part of the range a rest so it can re-establish itself; they include contour ridging and furrowing to slow down water run off and let the moisture soak in; the measures include the development of new watering places for the livestock and the development of water storage. But that's a general statement, and the needs differ from one part of the country to another and from one part of a ranch to another.

ANNOUNCER:

In other words, a rancher may use 'ALL of the practices you mentioned....or, he may choose one or two practices.

WEAVER:

Yes...it depends on the conservation problem that the rancher needs to work on. You see, the practices we are trying to encourage through the range program have all been used by range men for a long time. One man may have one problem pretty well taken care of, but something else needs doing...while his neighbor maybe needs help to do something entirely different to accomplish the same purpose--the purpose of range conservation.

Either Andy or Jim here can illustrate the point...Andy, suppose you tell Mr. Campbell what you've been doing to improve your range.

NELSON:

All right. The problem that's been giving me the most trouble, has been how to get enough water. So in the past four years, I've built 20 reservoirs.

WEAVER:

Let's see, Andy. You operate about 25,000 acres, don't you?

NELSON:

That's right, George.

WEAVER:

And how many cattle do you run?

NELSON:

Right now, we have about 400 head of cows, and 400 head of steers. Part of those steers were bought in the Southwest as replacement stock following the drought.

WEAVER:

Mr. Campbell, you can see from the size of Andy's operations that those 20 new reservoirs come in mighty handy.

ANNOUNCER:

Yes, I'd judge they do.

NELSON:

They're more than just handy, George. I've got to have the reservoirs. I can't stay in the cattle business without 'em. And I think Jim Daly will tell you the same thing.

DALY:

You're dead right, Andy.

ANNOUNCER:

Mr. Daly, does that mean water has been your biggest problem, too..... as it has been for Mr. Nelson?

DALY:

Yes....Andy and I live in adjoining counties so we have a lot of the same problems.

NELSON:

You've got more reservoirs than I have, haven't you, Jim?

DALY:

Yes, I have 40---20 that were built between 1911 and 1936, and 20 that I've built since 1936, with the help of the program.

WEAVER:

How much range do you operate, Jim?

DALY:

43,000 acres---about two townships. We don't run cows any more, George; we've been buying yearling steers and running 'em until they're 3 years old.

NELSON:

How many do you aim to ship this fall, Jim?

DALY:

About eight to nine hundred head.

ANNOUNCER:

8 to 9 hundred head! Say, no wonder you need 40 reservoirs. But how'd you get along with only 20 before 1936; and you said you had fewer than 20 in years before that?

DALY:

Well, when my father came to Wyoming in '84, and for a good while after that, the country was all open range. The livestock had access to watering places that they didn't have after the country was homesteaded and fenced up. We built some reservoirs years ago, but we never did have enough, especially in dry weather. The stock would have to go too far to water, and on the range closest to the water, they'd graze too close and trample the grass out. In some years the range would carry lots of livestock, and in some years we'd have to cut way down.

NELSON:

That happened off and on, Mr. Campbell, but we always managed to get along,-- we got along until the drought and the grasshoppers came in 1934. Then we had to sell off about all the stock we had.

DALY:

And again in 1936, Mr. Campbell, we had to take it on the chin, and the country had to get along with less meat and other livestock products, because we didn't have enough water.

NELSON:

In Sheridan County you could go out in a pasture and throw a silver dollar, if you had a dollar, throw it as far as you could, and you could go right over and find it, the grass was that short and thin.

WEAVER:

Andy, did the grass give out just because of the drought and grasshoppers and lack of watering places? Or was it partly because the range had been overstocked and over-grazed for a good many years?

NELSON:

There hasn't been a lot of over-grazing up in our country, would you say, Jim?

DALY:

No, I wouldn't. We have a situation that's quite a bit different from what they have in some other range country. We don't have many year-round pastures. We have a lot of high country where the snow gets too deep for practical grazing in the winter; so we use that for summer. We use lower and more protected pastures for winter.

NELSON:

I'd say the winter ranges were in good shape until the grasshoppers and drought hit in '34 and '36, wouldn't you?

DALY:

You bet. But part of the summer ranges may have been overgrazed...especially around the few water holes we had in those days. Most everybody knew, though, that they couldn't graze off a range too close every summer and still keep it in shape to put good gains on the stock. In my own case, the ranch has an appraised carrying capacity of 32 acres per animal unit. But I actually operate on the basis of around 40 acres per animal unit.

WEAVER:

Jim, that brings out what I had in mind when I asked the question about over-grazing. Over-stocking shows up more quickly on summer range than it might if you had all-year-round grazing on the whole place. That leads me to ask if you practice much deferred grazing on your summer range.

DALY:

No, we're just careful not to stock the summer range too heavy. On the winter range, we always practice deferred grazing, but we don't claim a payment for that. We've made reservoir building the big thing...rather than deferred grazing.

ANNOUNCER:

Well now that you've got all these new reservoirs that you've been building, what results do you see? Mr. Nelson....

NELSON:

Before I answer that, Mr. Campbell, I want to make sure you understand that we don't have all the reservoirs we need, yet. Jim tells me he's going to build one every place he can find a location to put one. And that goes for me, too.

ANNOUNCER:

Incidentally, does the conservation payment you get from the Government meet the cost of building the reservoirs? What about that, Mr. Daly?

DALY:

Yes, it does, but I've been doing a little more every year than I get paid for. You have too, haven't you, Andy?

NELSON:

Yes, I have, Jim.

DALY:

And besides that, I plant grass on the dams and in the spillways to keep them from washing out.

NELSON:

One of these days, I'm going to start contouring; that's to save moisture.... But to come back to your question, Mr. Campbell, about results. We've seen very good results. During the droughts of 1934 and 36, we were afraid the grass never would come back. But it is coming back. Better distribution of water means better distribution of grazing, and that helps the grass. Even some of the old range that people thought was done-for, is coming back.

DALY:

Mr. Campbell, on the drainages below these reservoirs that have been filled for a year or two, seepage springs are developing. We believe that when we store water in reservoirs and the water seeps into the ground, that helps the ground-water supply. We also believe that evaporation from the reservoirs will increase rainfall.

ANNOUNCER:

I can well imagine that the ranchers are very happy about these results.

NELSON:

We are, but we're not the only ones who get the benefit.

ANNOUNCER:

What do you mean by that?

NELSON:

I mean our reservoirs help people all over the country. Down along the Mississippi River, the people should be glad to know some of us are holding up a lot of water that used to go down stream at flood time.

DALY:

Not only that, Mr. Campbell, wildlife is increasing, too. We see more ducks, sage chickens, and different kinds of wildlife that haven't been plentiful for a long time, due to the lack of water. Conserving wildlife is something that helps everybody. For one thing, we hope more birds will help control grasshoppers and other insect pests.

WEAVER:

That's a good point, Jim. And if you'll let me put in one last word, there's one other thing that happens when ranchers determine to make the range a little better every year. It helps to strengthen our economic system. It strengthens the bond between West, Middle West and East. The West grows good cattle and sheep. The Middle West grows good corn and feeds it to the cattle and sheep they get from us. The East depends on the West and Middle West for meat and leather and wool. That means trade. They buy from us...we buy from them...cars, trucks and tractors; clothing, furniture, and barbed wire.

West, Middle West, and East make a strong chain. And Western ranchers are conserving the range to keep their link strong.

DENVER ANNOUNCER:

To keep their link strong...a good point on which to end this discussion. Farm and Home friends, in this report on the conservation of western range lands, you have heard two Wyoming ranchers: Andy Nelson of Sheridan County and Jim Daly of Campbell County; and George Weaver, a rancher of Larimer County, Colorado, and range specialist in the federal Range Conservation Program...This report has reached you from Denver, Colorado...we return you to Chicago.

CHICAGO ANNOUNCER:

Thank you, and here we are, back again in Chicago.

Farm and Home friends, if you would like to have a copy of the report on range conservation, that you have just heard, and copies of other reports in this series, address a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the reports on Today's Soil.

The series "Today's Soil for Today and Tomorrow" continues next Tuesday. Farmers from Kandiyohi (Candy-yo-hi) County, Minnesota, will tell us about their tree planting as one practice in the Agricultural Conservation Program.

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TODAY'S SOIL FOR TODAY AND TOMORROW

No. 8 - Tree Planting

Broadcast Tuesday, March 5, 1940, in the Department of Agriculture portion, National Farm and Home Hour, from Chicago.

Participants: Charles S. Flann, Oswald N. Gravgaard, and* Axel T. Johnson, members of the County Agricultural Conservation Committee, Kandiyohi County, Minnesota.

---ooOoo---

MITCHELL:

Thank you Walter, and thank you boys. Your music takes us back to the days of the covered wagon and the pioneers. It's hard for us to realize that those days were not so long ago. But actually it was only 78 years ago, in what is now Minnesota, that the Indians of the Dakota Nation stopped and turned back the westward move of the pioneers. In 1862 the Sioux uprising drove back the pioneers and kept them east of the headwaters of the Mississippi for three years.

A part of the territory where that occurred is now Kandiyohi County Minnesota.

Farm and Home friends, I mention this bit of history by way of introducing today's installment in the soil conservation series---"Today's Soil for Today and Tomorrow."

We're going to hear from three farmers of Kandiyohi County, Minnesota; they are Charles S. Flann, Oswald N. Gravgaard (Grave-gard), and Axel T. Johnson--all are members of the County Agricultural Conservation Committee. They're here to tell us about their conservation program--especially about their record of tree planting. But before they report to us on today's soil and their efforts to use this soil wisely for today, and tomorrow, I think we should ask them to tell us what their county was like, back in the early days of settlement...at the time of the Sioux uprising...in the 1860's. Mr. Flann, you told me a few minutes ago that your father came to Kandiyohi County many years ago, and settled on the land where you now live...

FLANN:

He was not one of the first though. He came in '76. He came over from Norway and settled in the south part of Kandiyohi County.

MITCHELL:

How did the south part of the county look at that time?

FLANN:

That part was the prairie.. Some of the grass grew 6 feet tall.

MITCHELL:

Grass 6 feet tall? Must have been great buffalo country.

FLANN:

The Indians said it was the land that made buffalo. The grass was good and there was lots of water, lots of lakes. I don't know how many lakes there were. Axel, maybe you know...

(*Fred J. Marshall, State Triple-A Committeeman substituted for Mr. Johnson.)

JOHNSON:

Over a hundred, I guess. But not near all of those were in the south part where Charley and I live. Lots of them were in the North where Oswald lives. And the north part has always been different from the south part.

MITCHELL:

Mr. Gravgaard, how about that? What was the north part like in the early days?

GRAVGAARD:

Rolling land, many lakes----and quite heavily timbered. Our county historian, Mr. Lawson, tells me one township had such a heavy forest on it that the first surveyors didn't even try to go through. Other parts had a good many trees but more scattered.

JOHNSON:

About the time my folks came here from Sweden--or before that--there was some lumbering. Lots of trees were cleared off for farming too.

GRAVGAARD:

Yes, but people planted trees too. Lots of the groves we have now were planted. I understand the government once gave people 160 acres of land for getting 10 acres of trees started.

MITCHELL:

Well, I think we've got a pretty good idea now of the county--in its early days--a land of prairie and lakes, of rolling land and lakes, and trees of both natural growth and planted growth. Now let's take a look at the county as it is today. You still have lots of trees, haven't you, Mr. Flann?

FLANN:

Yes, you see lots of trees around the lakes. You see trees along the drainage ditches, like little rivers. And you see trees in groves on our farms. But the drouth killed off thousands of trees.

MITCHELL:

You had a bad drouth did you?

FLANN:

I'll say we did. It was very dry in 1933. It was worse in '34. And '35 and '36 were dry too. We had a land boom, didn't we, Oswald...

GRAVGAARD:

Real estate was sure moving. We had dust storms so thick you couldn't see 15 feet ahead of your car. I had one 80-acre field where the soil blew off as deep as I had plowed.

FLANN:

It was bad all right...Axel, how many trees do you suppose we lost?

JOHNSON:

I think we lost probably three-fourths of the old trees. The young trees didn't die so much, but practically all the old cottonwoods and box elders died.

MITCHELL:

Mr. Johnson, I suppose the loss of all those trees in the drouth is the reason you farmers in Kandiyohi County have been planting trees under the conservation program...

JOHNSON:

That's right, Mr. Mitchell. Our county agent, Ronald McCamus, started us off in 1935. He put on a campaign to get people to plant trees. The Resettlement Administration supplied the trees at cost. Then the Agricultural Conservation Program came along. The program has helped us plant trees every year since. We've planted 75,000 trees a year for the last five years.

MITCHELL:

75,000 trees a year for 5 years?...I think you Minnesota farmers really like trees.

GRAVGAARD:

You bet we do. I can't see how anybody can get along without a windbreak. When you've been out in the wind and then get behind a grove, it's almost like going in the house.

JOHNSON:

Mr. Mitchell, you'd like trees too if you had to get out and do your chores when the thermometer shows 30 degrees below zero, with a strong northwest wind blowing.

MITCHELL (laughing)

I can believe that all right.

JOHNSON:

Trees are good for lots of things. When you want a fence post or a pole, you just go get one. Don't have to buy it. And with plenty of trees, you could get along without any coal.

GRAVGAARD:

You can get fuel all right. One of my neighbors and I own a 25-acre woodlot and last fall I went out and got 19 loads of oak and ironwood. That sure makes a fire.

FLANN:

Well, besides fuel and protection from wind, we get something else from trees. Things just wouldn't look right without trees. When my father came here, he planted a grove by the house. We still live in that house. And now my father's great grandchildren enjoy the shade.

GRAVGAARD:

Charley, that tells what I was just about to say. We don't plant trees for ourselves. We get the good out of the trees that are here, but somebody else gets the good out of the trees we plant. Besides this, we all know that tree planting is a national conservation policy. The country needs more trees to control erosion to help control floods, and to put poor land to better use.

MITCHELL:

From the way you all feel about the value of trees, I judge you'll be planting more in the future.

FLANN:

I think we will. There's a good deal of interest in tree planting in our county. And I guess there is all over the country. In the 1938 conservation program, farmers in the United States planted over 55 thousand acres of trees. And they did work to maintain a stand of trees, or improve the stand, on 150 thousand acres. In lots of places they need trees to stop erosion. In some places they need protection against summer wind as well as winter wind. Trees are good for lots of things.

JOHNSON:

Charley, aren't you going to tell Mr. Mitchell about the tree-planting allowance. I think that's going to help farmers all over the country plant more trees this year.

FLANN:

Yes....that tree-planting allowance is a new part of the program. This year any farmer can earn an allowance of \$30 for planting four acres of trees in addition to any other payments he may earn on his farm.

MITCHELL:

Gentlemen, it sounds as if you really push tree-planting in your agricultural conservation program. Am I right, Mr. Gravgaard?

GRAVGAARD:

Well in our county we try to make sure all the farmers know about the tree-planting practice. It's important. But it's actually just a small part of our whole farm program. Our county has diversified farming...livestock, including dairy; quite a lot of corn, oats, barley, some wheat, rye, some sugar beets; and under the program we've increased our flax acreage. With this kind of farming, we need lots of hay and pasture. We also need the Ever-Normal Granary. We need to keep a reserve of corn so we can always be sure of corn for our feeding operations. One thing we've done has been to increase our acreage of legumes. I don't remember the exact figures...you've got 'em haven't you, Axel?

JOHNSON:

Yes, I wrote 'em down. In 1933 we only had 11,000 acres of alfalfa in the county. In 1939 we had 16,000 acres and we planted almost that much again—we planted 13,000 acres. Also 28,000 acres of sweet clover.

GRAVGAARD:

Those figures show what we think of legumes, Mr. Mitchell.

MITCHELL:

You like legumes, you like trees....and you also said, Mr. Gravgaard, that the farmers in Kandiyohi County need the Ever-Normal Granary.

GRAVGAARD:

Yes, and I'd say we really have it in operation, wouldn't you, Charley?

FLANN:

Yes, Oswald. We have a good reserve of corn stored up. We have 550,000 bushels of 1937 and '38 corn, and we've sealed close to 800,000 bushels of 1939 corn.

We store the corn under loan, Mr. Mitchell.

MITCHELL:

How do you figure it helps you to get a loan and store up corn, Mr. Flann?

FLANN:

Well, we get cash to meet expenses without selling corn we may need later. When we have surplus corn, we put it in the cribs. Before we had the corn loan program we couldn't do that. In 1932 we sold surplus corn for 12 cents a bushel and hogs for 2 cents a pound. When we've got corn under loan, we don't have to feed it all at once or sell it all at once. We see the corn there in the crib, and we don't plant so many acres to corn. We plant more acres to alfalfa and clover. We think that's better farming.

MITCHELL:

Better farming in Kandiyohi County, Minnesota...Farm and Home friends, Charles S. Flann, Oswald N. Gravgaard, and Axel T. Johnson have told us about the Agricultural Conservation Program in their county. They are farmers who have been elected by the other farmers of Kandiyohi County, Minnesota, to run the Triple-A program in that county.

If you would like a copy of today's broadcast on tree-planting and other conservation measures, address a card or a letter to the U. S. Department of Agriculture, Washington, D. C. Ask for the broadcast on tree-planting.

The series of broadcasts on Today's Soil for Today and Tomorrow will continue next Tuesday. North Carolina farmers will report to you on the use of cover crops and on turning under green crops, to improve "today's soil for tomorrow."

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 9 - Cover and Green Manure Crops.

Broadcast Tuesday, March 12, 1940, in the Department of Agriculture period, National Farm and Home Hour, from Washington.

Participants: H. A. Sims, Union County; W. E. Turner, Warren County; and W. L. Powell, Bertie, County, (North Carolina County AAA Committeemen).

KADDERLY:

Here we are in Washington, and we bring you another report on Today's Soil for Today and Tomorrow--a story of soil-building and conservation in North Carolina.

North Carolina has been making American history for more than 350 years--ever since the colonization by the English of Roanoke Island, in that narrow bumper of land that separates the mainland from the Atlantic Ocean...ever since the birth of Virginia Dare, the first white child born to English-speaking parents in North America.

In the course of those 350 years the periods of pioneering and westward expansion have gone by. And now in the year 1940, the farmers of North Carolina are joined with farmers all over the nation in pioneering a permanent agriculture.

To report to you on the development of conservation farming in their State, we have with us three North Carolina farmers...all are elected members of county committees, helping conduct the Agricultural Conservation program. They are W. L. Powell of Bertie County, in the Coastal plains section of the State; H. A. Sims of Union County, in the lower Piedmont; and W. E. Turner of Warren County, in the upper Piedmont. North Carolina farmers are using many methods to conserve and build soil. They are especially interested in the use of cover crops and green manure crops.

Mr. Powell, I'm going to call on you first, and ask you to tell us why you and so many other farmers in your State are interested in cover crops and turning green crops back into the soil.

POWELL:

Mr. Kadderly, we want to save our soil and make it more fertile. You don't find good homes and good schools and good churches in communities where the soil is all worn out, or washed and leached away. No matter how hard you work, you can't make a decent living unless your soil is fertile.

KADDERLY:

And you figure one way to have productive soil is to grow cover crops and enrich the land by turning under green crops...

POWELL:

That's part of what we need to do. We know it works. In Bertie County, we made a good start in winter cover crops in 1938, and we can already see the results.

KADDERLY:

You can see the results, you say?

POWELL:

Yes sir! There's right much difference between a field growing winter cover and a field not growing it...

KADDERLY:

Mr. Turner, what has been your experience in Warren County?

TURNER:

About the same. I know as far as I'm personally concerned, I've been growing cover crops for 4 or 5 years, and I've decided I'll never try again to farm without 'em.

KADDERLY:

You seem to have your mind definitely made up, Mr. Turner...what caused you to make that decision--general observation or some single experience.

TURNER:

Both I reckon. I've tried out cover crops on my own farm, and I've watched other farms in the county. I also saw a demonstration by the Soil Conservation Service that showed we lose a lot of soil where we don't grow cover crops. It also proved we lose very little soil where we do grow cover crops.

KADDERLY:

I've been told the farmers of Warren County have increased their acreage of cover crops a great deal in recent years. Is that true?

TURNER:

Yes sir. Last fall we seeded around 9,600 acres of winter cover. That's mostly crimson clover and vetch. We have many more acres of cover crops now than we ever had before.

KADDERLY:

Do you have as many acres as you need?

TURNER:

No...We're not that far along. Our land is rolling, and it's hard to hold the soil together. Terraces help, but we need more cover crops. We now grow a good bit of the seed that we need for cover crops. For example, we seeded 132,000 pounds of crimson clover last fall, and about a third of that seed was grown right there in the county. Our soil building payments help us buy the seed we don't grow. I reckon we're growing 4 times as many acres of legumes as we grew a few years ago.

KADDERLY:

It seems to add up to this, doesn't it: that you still have land in the county that needs cover crops, but you've increased the acreage of these crops rapidly in the last few years...

TURNER:

Yes sir. And we're not only growing legumes but also rye grass and rye. Those make a good winter cover on tobacco land.

KADDERLY:

Well now, let's hear from Mr. Sims and Union County. Mr. Sims, I understand that Union County farmers have been growing legumes over a period of many years.

SIMS:

Yes, that's right. Our county agent started talking lespedeza 28 years ago. He has talked lespedeza so much that everybody calls him "Lespedeezer" Broom.

KADDERLY:

"Lespedeezer"...that's a pretty good name to have, I'd say.

SIMS:

It's a name we have respect for. Mr. Broom is 74 years old and very active. Our county is a lot better off because of the legumes we've planted on his advice.

KADDERLY:

Well, if you've been increasing the acreage of legumes, over the years, you probably didn't notice much difference when the Agricultural Conservation program began to encourage that practice.

SIMS:

It made a big difference though. In the first place only about two-thirds of the farmers in the county had grown any legumes before the program started. The soil building program has reached the other third or more of the farmers who weren't growing these crops before. But the most important thing is that the program has helped all our farmers to finance conservation practices they couldn't have carried out without the program.

KADDERLY:

In that case just about all of the farmers in Union County must be doing soil-building work now.

SIMS:

You'd have a hard time finding farmers in the county who don't have some soil-building crops. Last fall our seed dealers sold over 225,000 pounds of vetch seed, and most of it was grown in the County. They sold over 50,000 pounds of crimson clover seed and nearly 15,000 pounds of Austrian winter peas. Last fall we seeded 18,000 acres of winter cover that we'll turn under in spring.

KADDERLY:

What is your main cash crop, Mr. Sims - in the county?

SIMS:

Cotton is our cash crop, but we also grow feed crops for livestock and poultry.

KADDERLY:

Has your soil-building work over the years, brought the returns in increased yields that you'd expect?

SIMS:

Yes sir! We have increased our cotton yield by one-third. That means we produce cotton cheaper. And we use less land for cotton. We use more land for food and feed. In the old days, the farmers of the county had to buy right much of the grain and hay and meat needed on the farms. We don't have to do that now. We grow what we need.

KADDERLY:

In other words, you live at home. Well, coming back to Bertie County...Mr. Powell, a minute ago you told us your county had a big increase in the acreage of winter legumes, just in one year's time. Tell us how that happened, will you?

POWELL:

Well--for 15 years the Extension Service had been giving us a chance to study the use of legumes. Demonstrations were arranged and from these, we knew that turning under winter legumes on sandy land would increase crop yields.

We had learned there were right ways and wrong ways to handle winter legumes. For example, we knew we wanted early maturity and rapid decay after the legumes were turned under. The point is, we knew about the benefits of winter legumes, and we knew something about how to handle them.

But somehow, not many farmers had started growing them.

KADDERLY:

What was the reason, Mr. Powell?...Lack of money?

POWELL:

Lack of money was one reason. We didn't have our own seed, of course...and the money to buy seed always seemed to be too scarce. But I reckon the educational work had sunk in, because we sure did grow legumes when we got a chance to get seed as a grant-of-aid under the Triple-A program.

KADDERLY:

Did you say, "Grant-of-Aid?"

POWELL:

That's right. In place of payments under the program, we had an opportunity to take seeds of winter legumes...vetch and Austrian winter peas. That was in 1938.

KADDERLY:

And that's when the big increase in acreage of winter legumes came about in your county --

POWELL:

Yes, that's the year. Here are figures that tell the story. In 1936 we had only 380 acres of winter legumes in the county. In 1937 we had just a few acres above 1000. And in 1938 we had 5,300 acres.

KADDERLY:

Mr. Powell, you told us before that you can already see the benefit to the soil of growing cover crops, but I didn't ask for a bill of particulars...Now I'd like to ask just what results you have seen.

POWELL:

All right. I'll tell you. As you know, we grow peanuts as one of our cash crops...peanuts and tobacco and cotton. Well, our peanuts are sometimes hurt by too much rain. We've noticed that a lot of rain will hurt the peanuts worse on land that has not grown a cover crop than it will on land that has had a cover crop.

KADDERLY:

I should think peanut land would need a cover crop.

POWELL:

You're right, peanut land needs cover. When we harvest peanuts, we take the whole plant off the ground...leave the ground bare. That bare ground washes away. We have to tie it down.

Another benefit we see in cover crops is in the western part of the County. Last spring some of that land blew so badly we had a regular dust storm. You could hardly see to drive a car. But right beside those fields that were blowing, you could see fields that were not blowing. Those were fields where vetch was holding down the soil. And these legumes help increase crop yields.

KADDERLY:

You couldn't overlook results like that, could you?

POWELL:

Makes us wish we had started our soil-building program years ago. There's so much to be done.

KADDERLY:

Yes, but as the fella says: There's no time like the present. As things stand now, I know all three of you are proud of the results your counties have achieved in soil-building...proud also of results in North Carolina as a whole.

Farm and Home friends, in this report on cover crops for soil building and soil saving, you have heard three North Carolina farmers--W. L. Powell of Bertie County; H. A. Sims of Union County; and W. E. Turner of Warren County. All are Triple-A committeemen who help conduct the Agricultural Conservation program. The counties they represent are among the many in the United States that are saving and building soil by means of cover crops, and other conservation measures. Farmers in the nation are now growing more than 25 million acres of cover and green manure crops

If you would like to have a copy of today's report and others in this series on Today's Soil for Today and Tomorrow, address a card or a letter to the Department of Agriculture, Washington, D. C. The series will continue next Tuesday with a report by farmers from Greeley County, Kansas. They'll tell us about their use of strip cropping and other practices to keep their soil from blowing away in dust storms.

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TODAY'S SOIL FOR TODAY AND TOMORROW

No. 10 - Strip Cropping and Cover
Crops for Control of Soil Blowing.

Broadcast Tuesday, March 19, 1940, in the Department of Agriculture portion, National Farm and Home Hour from Denver, Colorado.

Participants: Harry Ridlen, Luther Trued, and Jess Taylor, AAA Committeemen, Greeley County, Kansas.

--ooOoo--

CHICAGO ANNOUNCER:

Today's Soil for Today and Tomorrow....under this general topic, each Tuesday, farmers and ranchers who take part in the nation-wide Agricultural Conservation Program and who conduct the program in their counties are relating their experiences with soil-building practices.

Today we shall hear a report by some farmers from Western Kansas....from a part of the Great Plains that has been called the Dust Bowl.

SOUND - (FADE IN WIND)

CHICAGO ANNOUNCER: (OVER WIND)

This is a story of a battle.....a battle of Science against Dust....of Man against Wind.

SOUND - (WIND 30 to 40 MILES AN HOUR, QUITE STEADY GALE. FADE TO BACKGROUND AND CONTINUE THROUGH FOLLOWING SEQUENCE).

CHICAGO ANNOUNCER (CONT.):

The year is 1937. The season is spring....a season of high winds, South winds that often blow all day and all night, winds that often blow for a week or two weeks, without stopping.

And the wind is laden with dust. You don't smell the dust any more.... you're used to it. But it gets in your eyes, and it grits between your teeth.

Worse than that, it piles up in great heaps. It piles up on a field, and it moves on to the next field. It used to be good land -- this dust did. But now it's not....it's dry, sandy, dust that ruins the land and drives the people from their homes....anything to get away from that land of dust, say some of the people, and off they go -- off to the west....certain of nothing --well, certain of ONE thing: THEY WANT NO MORE DUST.

The people left behind are certain of that too. They want no more dust storms, no more farms ruined by wind and dust. This is the year 1937, remember --the SPRING of '37, and the people who are left in Greeley County, Kansas, are desperate.

Desperate but not hopeless. For 5 years they have watched their soil move from field to field. They're going to stop it, if there's any way to stop it.

They have joined together for action.

SOUND: (FADE IN - BIG TRACTOR, RUNNING FULL SPEED, BRING TO FULL VOLUME AND FADE TO BACKGROUND. CONTINUE WIND).

CHICAGO ANNOUNCER (CONT.):

Night has come to the plains. The blood-red sun has set in a thick haze of dust. The night has come, but men are in the fields. The sound of their tractors mingles with the sound of the wind. The headlights pierce the dark and the dust. Men and machines are fighting back against the wind and the dust. The farmers have decided....every acre in the county must be protected from wind. Not just part of the land....that won't do any good....its got to be all of it. So get in touch with absentee landlords....get permission to till their land....protect theirs and yours too....do it....don't delay....work all day....work all night. Get the job done. So say the farmers. And the tractors, roar out the echo: get the job done....GET THE JOB DONE. YOU CAN'T STOP THE WIND....BUT YOU CAN STOP THE DUST!

SOUND: (TRACTOR AND WIND UP FULL AND CUT OFF COLD).

CHICAGO ANNOUNCER (CONT.):

You can't stop the wind....but you can stop the dust....and the farmers of Greeley County, Kansas, did stop the dust. Now feed crops grow....cattle graze....and flocks of sheep feed, where the dust piles lay a few years ago. To hear how the farmers of Greeley County have controlled wind erosion, we now take you to Denver, Colorado.

DENVER ANNOUNCER:

Here we are in Denver, and we have with us three farmers from Greeley County, Kansas: Harry Ridlen, Luther Trued, and Jess Taylor. They're in charge of the Triple-A farm program in the county. And all three have had a prominent part in Greeley County's fight against soil blowing.

Mr. Ridlen, all of our Farm and Home friends are waiting to hear from you and Mr. Trued and Mr. Taylor. To many of us, the fight to save the farms in the Dust Bowl is one of the most dramatic things that has ever happened in America.

RIDLEN:

Well, I don't know whether it's dramatic or not....We just did what we had to do.

TAYLOR:

The point that Harry's getting at, is this, Mr. Campbell: Every farmer in the county was so desperate that he'd try most anything.

ANNOUNCER:

In that case, Mr. Taylor, it's a good thing that the "most anything" was the right thing.

TRUED:

We were lucky in that way, Mr. Campbell

ANNOUNCER:

Why do you say "lucky" Mr. Trued? Aren't you being modest?

TRUED:

No....we just didn't know what would work and what wouldn't. We must have had a thousand different ideas.

RIDLEN:

Lute, if you remember....a lot of people said there wasn't anything that would work.

TRUED:

Yes, I remember all right. They said we'd just have to wait for more rain and less wind.

TAYLOR:

There wasn't much use arguing either, because nobody could prove anything. But most of us figured there wasn't any use waiting for rain. We knew that if we didn't get those blow piles leveled out, a rain wouldn't do any good.

ANNOUNCER:

"Blow piles"....that's a new term for me, Mr. Taylor. What do you mean by "blow piles?"

TAYLOR:

That's what we call the mounds of dust that the wind piles up.

TRUED:

Mr. Campbell, did you ever watch your wife bake a cake?

ANNOUNCER:

Why, I....guess so....Why?

TRUED:

See her pour milk or water on a crock full of flour? And see the little balls of flour run off the top into the puddles around the edge?

ANNOUNCER:

Yes.

TRUED:

Well, that's what rain would do to those blow piles. We'd get a little rain, and cars would get stuck in the mud while the dust was blowing so thick you couldn't see five feet around you.

ANNOUNCER:

I see the point. You had to get the blow piles leveled out so they'd absorb the rain. Otherwise, you'd still have dust storms even if you got rain.

TRUED:

Yeah. But remember this too: We weren't so much worried about having dust in the air as we were about having dust piles all over our fields. That dust would pile up first one place and then another, so we couldn't farm at all.

ANNOUNCER:

How high would it pile up, Mr. Trued?

TRUED:

Oh, as high as the top of this table or higher.

ANNOUNCER:

No wonder you couldn't farm. But how did your country get into such a terrible condition? Mr. Ridlen, can you tell me?

RIDLEN:

I believe so. Greeley County has always had plenty of wind. And there have been wet periods and dry periods. But the soil didn't blow while it was in grass. Our county underwent a big change about 1919. Foreign demand had jacked up the price of wheat. And we plowed up thousands of acres so we could grow \$2wheat.

ANNOUNCER:

And when the plains were plowed, the dust blew.

RIDLEN:

After our wet weather stopped, the dust blew. We went along all right until 1931. That was the last year we had a good wheat crop. After that the drought came.

ANNOUNCER:

The drought came, and the land went....is that the way of it?

RIDLEN:

That's a fact. Conditions kept getting worse from 1932, through 1935. We kept thinking conditions would improve, but they didn't. In '36 we were getting desperate. But we've already told you about that.

TAYLOR:

Harry, it was in '36 that Congress appropriated some money for listing.

RIDLEN:

Not just for Greeley County though, Jess.

TAYLOR:

No, it was for a number of counties. And we did a lot of listing.

ANNOUNCER:

What was the purpose of listing, Mr. Taylor?

TAYLOR:

To break the sweep of the wind. We'd list up a ridge of cloddy soil every few feet so the wind couldn't get such a strong hold on the flat land.

ANNOUNCER:

Sounds reasonable. Didn't it work?

TAYLOR:

Not until we got organized. The trouble was, we'd list a field, and an un-listed field would blow right over on top of it. In just a few hours, our lister ridges would fill up level with dust. Therefore, many people said listing was no good.

TRUED:

Then was the time we wondered whether anything would do the job. That's when we had a thousand different theories.

ANNOUNCER:

How'd you all get together on one program, Mr. Trued?

TRUED:

Well, our county agent, Lee Brewer, called a council of war so to speak. Our Triple-A committee, and our Farm Bureau officers, the county commissioners, our planning committee, and some business men all got together. And we agreed on a plan. We thought listing might save us if we did it on all the land in the county, and all of it about the same time. Lots of people didn't think it could be done, and they doubted whether it would do any good; but they were willing to try.

ANNOUNCER:

Yes, and then what?

TRUED:

Well, we had another problem...71 percent of the land in the county is owned by people who live outside the county, and their land had to be worked if we were going to save our own land. Our county agent got the outside owners to either get their own land listed or lease the land to farmers living in the county. Most of them leased. And that made an average of almost 3,000 acres for each farmer living in the county to take care of.

ANNOUNCER:

That's the reason for that all-day and all-night work with the tractors, back in 1937?

TRUED:

That's right. We had to "step on it." Twenty-four hours a day, seven days a week.

RIDLEN:

Lute, you didn't mention the fact that our program included a lot more than listing.

TRUED:

You tell Mr. Campbell about that; Harry.

RIDLEN:

We knew we had to do more than list. We had to hold the ground in place. So we adopted a rule that nobody could get a Triple-A conservation payment unless he had all of his crop land either in stripcropping....or under a cover crop like Sudan grass or sorghums.

ANNOUNCER:

Cover crops or strip-cropping....And stripcropping is what, Mr. Ridlen?

RIDLEN:

Just what it sounds like....a strip of cover crop or stubble to break the force of the wind, and then a strip of wheat or fallow, and another strip of cover. In 1937 we had 150,000 acres in cover and strip-cropping, compared with only 31,000 acres the year before. In 1939 we had 185,000 acres in cover crops and strip-cropping. We had increased our summer fallow acreage by 5 times compared with 1936. We had only a little over half as many acres in wheat, and over twice as many acres in feed crops. We had much more livestock and poultry.

TAYLOR:

That's what we've got to have, Mr. Campbell....more livestock and poultry; less wheat; and all of our land either in grass or under cover or in strip-cropping. We not only have to keep our farms from blowing away....we also have to have a more stable farm income. We've got to have a safer system all the way round.

ANNOUNCER:

Well, since you've got started, you seem to have made rapid progress.

TAYLOR:

We feel pretty good about it.

ANNOUNCER:

Do you feel you've got the blow hazard licked?

TAYLOR:

No, we haven't got it licked but we've got it under control. We've done all that man can do. Now we believe that if we continue what we've started, the job will be finished by nature.

ANNOUNCER:

There's something else I want to ask all of you. Just confidentially, didn't you often feel like moving out of Greeley County back there in 1935, '36, and '37? How about you, Mr. Ridlen?

RIDLEN:

I didn't think much about it. I just couldn't move.

ANNOUNCER:

Mr. Taylor, How about you?

TAYLOR:

I've made several moves in my life, and I never did make a good move. I just made up my mind I wasn't going to move any more.

ANNOUNCER:

And Mr. Trued....didn't you want to move?

TRUED:

I had more faith in the country every bad day we had. I knew that meant just one less bad day before the good days came. I still think Greeley County

is the best place in the world.

ANNOUNCER:

Farm and Home friends, you can't beat that spirit! It might just be possible that that's why the farmers of Greeley County, Kansas, are winning the battle against dust and wind.

RIDEN:

Don't blow us up like that, Mr. Campbell. After all, we're just one county among many counties working to control wind erosion.

DENVER ANNOUNCER:

Well, we'll leave it at that, Farm and Home friends. This report on soil conservation in the Great Plains was given by Harry Ridlen, Luther Trued, and Jess Taylor, the members of the Agricultural Conservation Committee administering the Triple-A farm program in Greeley County, Kansas. This report has come to you from Denver, Colorado.

We take you now to Washington.

KADDERLY - (From Washington)

We're in Washington now.

That report from Greeley County, Colorado, was one of the series called "Today's Soil for Today and Tomorrow." The series continues next Tuesday when we hear a conservation report by farmers from Susquehanna County, Pennsylvania. If you would like a copy of today's report and others in this series, address a card or a letter to the U. S. Department of Agriculture, Washington, D. C. Ask for the reports on "Today's Soil." (Repeat address)

TODAY'S SOIL FOR TODAY AND TOMORROW
No. 11 - Pasture Improvement in
Susquehanna County, Pa.

Broadcast Tuesday, March 26, 1940, in the Department of Agriculture period of the National Farm and Home Hour from Washington over 92 stations associated with the National Broadcasting Company.

Participants: A. R. Bush, W. W. Resseguie; and A. J. Patton, members of the Agricultural Conservation Committee, Susquehanna County, Pennsylvania.

---ooOoo---

KADDERLY:

Here we are in Washington, ready to continue our weekly series on "Today's Soil for Today and Tomorrow." We have with us three farmers from Susquehanna County, Pennsylvania. They are A. R. Bush, W. W. Resseguie, and A. J. Patton -- all of them are members of the County Agricultural Conservation Committee. They're here to tell us about conservation encouraged by the Triple-A in Pennsylvania, and especially the pasture improvement work carried on in Susquehanna County.

(Reflectively) Susquehanna -- that word paints a picture in my mind -- a picture of a stately river winding down through the Allegheny Mountains -- past thrifty Pennsylvania farms and substantial looking villages. -- I think of early American history -- and from what our speakers have told me -- it was on a bend of the Susquehanna river that an American home was built for Marie Antionette, the wife of Louis XVI of France. Of course we know the guillotine claimed Marie Antoinette before she could occupy that home, but I understand the little town where the home was built did serve as a refuge for other fugitives from the French Revolution.

One of these farmers from Susquehanna County -- Mr. Bush -- tells me his farm is near the site of that old town.

Mr. Bush, I hope my historical reference is correct, because I know you can check me up on it ...

BUSH:

It's just about right, Mr. Kadderly. But we can't claim that the site of that old town is in Susquehanna County. However, Susquehanna County has plenty of history of its own.

KADDERLY:

Tell us a little of it, won't you?

BUSH:

Well, for one thing, Joseph Smith, the Mormon Prophet, lived in our county and married a girl there. She lived in the town of Oakland -- in those days called Harmony. And Joseph Smith translated part of the Book of Mormon while he was living in our county.

KADDERLY:

Well -- that's interesting ... and the agriculture of the county, Mr. Bush -- does it date back to the time of Marie Antoinette and Joseph Smith?

BUSH:

Just about. Most of the county was settled about 150 years ago -- people came here from Massachusetts and Connecticut just as soon as it was reasonably safe from the Indians.

KADDERLY:

Now about the location of the county ... Mr. Resseguie, -- will you tell me that?

RESSEGUIE:

We're in Northeastern Pennsylvania, Mr. Kadderly, -- just north of the anthracite coal region. We're high up. Most of the farm land is between 1200 and 2000 feet above sea level. And it's rough land -- some of it almost mountainous.

KADDERLY:

What type of farming -- dairying?

RESSEGUIE:

Dairying almost exclusively. We have about 50 thousand head of dairy cattle in the county. At least 35 thousand of them are milk cows. Most of our milk goes in fluid form to New York City.

KADDERLY:

That is, you don't sell butter and cheese -- you sell fluid milk.

RESSEGUIE:

That's right. And it's largely because we're close to market. To sell a bulky product like fluid milk, you just about have to be close to market. And of course for any kind of dairying, you need lots of good hay and pasture.

KADDERLY:

Which in turn means you must have plenty of moisture.

RESSEGUIE:

We usually have plenty of moisture. In addition to a good normal rainfall, we have 77 lakes in the county. And we have many springs, too. It might surprise you to know that nearly every farm in the county has cold spring water running right into the buildings by gravity.

KADDERLY:

Cold spring water right into your buildings by gravity. Hundreds of thousands of farmers would envy you that set-up.

Now let's see what Mr. Patton can add to this report. Mr. Patton, are you a dairyman, too?

PATTON:

Yes, I am, Mr. Kadderly, we're all dairymen up there. But in addition to keeping dairy cows, I have a commercial flock of laying hens as a side line.

KADDERLY:

How many hens do you have?

PATTON:

About 500.

KADDERLY:

500 . . That's a good many. Do most dairymen in the county keep commercial poultry flocks?

PATTON:

No, they don't. Only 15 percent of the farm income in the county comes from poultry, compared with 70 percent from dairy. If you want a typical dairyman -- we always say, in our committee meetings, that Mr. Bush answers that description.

BUSH:

I don't know whether I'm that average man they talk about, but my farming operations are just about the average of the county.

PATTON:

Mr. Bush, if you'd give Mr. Kadderly some details about your farm, he might get a better idea of the farming in Susquehanna County.

KADDERLY:

By all means . . would you ~~do~~ that?

BUSH:

Well -- I do all my farming on 100 acres. 53 acres of this is in cropland and the balance is in pasture. I keep 15 cows -- about 15 head of other cattle, 35 head of sheep, and 3 or 4 horses. (Pause)

Let's see . . I wonder if I've left out any thing you'd like to know, Mr. Kadderly?

KADDERLY:

Why, I'd be interested in your cropping system, Mr. Bush.

BUSH:

All right. It's like this:

I grow six to ten acres of silage corn. The field that was in corn last year is seeded this year with a mixture of oats, clover, timothy and alfalfa. The balance of my 53 acres of cropland is in hay.

KADDERLY:

Let me see -- that means that about one-quarter of your cropland always is either in silage corn or being reseeded to hay -- that means that all your cropland gets reseeded about every four years.

BUSH:

That's about it.

KADDERLY:

One other question, Mr. Bush . . Where does pasturage fit into your cropping system?

BUSH:

It doesn't, for my pasture land is all permanent pasture. It remains in sod and is never plowed.

KADDERLY:

Is all this what you meant, Mr. Patton, when you said that Mr. Bush is your typical Susquehanna County farmer?

PATTON:

That's just it -- but he might have added that we grow lots of hay. We have long winters up in northern Pennsylvania.

BUSH:

Right this minute the snow banks in front of the house are so high we can't see cars passing.

PATTON:

Yes, and we can usually count on having to feed the stock in the barn for eight months out of the year. We don't feel easy in our minds unless we have a barn full of hay and a well-filled silo to carry the cows through the winter. That means that we try our best to keep our cropland up in shape.

KADDERLY:

Your cropland . . . And how about the pastures? You try to keep them in good shape too, don't you?

PATTON:

That's just the point I was coming to. We've always thought of our cropland first and our pastures second. As a result most of us just went along for years without getting the pasture improvement work done. Our pastures show it. That's why pasture improvement is our conservation problem. That's why we're pushing pasture work in our Agricultural Conservation program.

RESSEGUIE:

There's another point that should be made clear to you, Mr. Kadderly.

KADDERLY:

What's that, Mr. Resseguie?

RESSEGUIE:

We don't raise all our feed. High producing dairy cows need plenty of protein, and our county isn't adapted to raising sufficient grain. We depend on western farmers to raise our grain for us. We must raise plenty of good hay and pasture, and we must sell/milk at fair prices if we are to be able to buy our concentrated feeds from the West. The low milk prices we have received in recent years have pinched in two ways -- first, we had less money to buy western grain, and second, we reduced our efficiency still further by neglecting our pastures.

KADDERLY:

Sort of a double-barreled injury, wasn't it?

RESSEGUIE:

Yes, but we're making a double-barreled recovery. The milk marketing agreement in New York City is improving our milk price and the Conservation Program is helping us to improve our pastures. Give us time and we'll get back into proper adjustment again.

BUSH:

That sums up our problem very well, Mr. Kadderly, but to get our pastures into good shape again, we need lime, phosphorus and manure.

PATTON:

We need them in that order, too Mr. Kadderly. Lime is of first importance. Most pastures also need phosphorus, and some pastures also require manure.

KADDERLY:

Tell me, Mr. Patton, how do you know so exactly what your soils need?

PATTON:

Why -- from our county agent and our state experiment station. The Pennsylvania Experiment Station published the first bulletin in the United States on the use of lime, and experiments with phosphates have been carried on at State College since 1881.

BUSH:

We get the results of these experiments through our county agent. Mr. Dale, our present county agent, has been in our county over 13 years, and he has carried on a very intensive program on pasture improvement.

KADDERLY:

Then the improvement of pastures is an old, old idea in Susquehanna County. Is that right, Mr. Bush?

BUSH:

There's nothing new about it -- quite a few of us have been doing it for years. The trouble has been that not enough farmers did anything about it and hardly any of us did a really complete job. We thought of our cropland first and we usually ran short on cash before we got to the pastures. -- And in the meantime our pastures got poorer and poorer.

PATTON:

That certainly was the weak spot in our farming, Mr. Kadderly.

KADDERLY:

I like the word "was", Mr. Patton . . It indicates you're now overcoming that weak spot.

PATTON:

We are . . . and fast too. Why -- there's been more pasture work done in Susquehanna County in the past two years than had ever been done before that time.

BUSH:

In 1938, Mr. Kadderly, the Agricultural Conservation Program started to offer lime and superphosphate as a grant-of-aid. Farmers could get lime and superphosphat

instead of a cash payment. That gave every farmer a chance to correct the weak spot in our farming.

PATTON:

The best thing about it was that Susquehanna County farmers seized the opportunity. We improved nearly seven thousand acres of pasture in 1938 -- we improved even more last year -- and we're still at it.

KADDERLY:

Seven thousand acres of pasture improved in 1938, more in 1939, and more improvement to come. Now you said, Mr. Patton, that these figures represent much more pasture improvement than had ever been done before.

PATTON:

That's right. Before we had our program, our county agent had started us using lime and phosphate on our pastures. Then when we got a conservation program, we made a big increase in our use of these materials. Then in '38, with lime and superphosphate furnished as grants-of-aid, we just about doubled the amounts used.

BUSH:

We'd like to show you the results we're getting, Mr. Kadderly.

RESSEGUIE:

Sure . . why don't you drive up next summer - it will be a lot cooler there than it is in Washington. We'll show you some real scenery including our improved pastures.

KADDERLY:

Thank you, gentlemen. I'd enjoy doing just that . . Farm and Home friends, this account of pasture improvement under the Agricultural Conservation Program in Susquehanna County, Pennsylvania, has been given by A. R. Bush, W. W. Resseguie, and A. J. Patton, members of the County Triple-A committee. Throughout the Northeast thousands of farmers are carrying on the same type of work, to meet essentially the same problem, as in Susquehanna County, Pennsylvania.

This report is one of the Tuesday series on Today's Soil for Today and Tomorrow. Next Tuesday, we shall hear from farmers from Perry County, Alabama. They will discuss soil conservation through Terracing.

If you would like a copy of today's report and of others in this series, address a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the reports on Today's Soil.

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 12 -- Terracing.

Broadcast Tuesday, April 2, 1940, by Sam J. Taylor, chairman of the County Agricultural Conservation Committee, and Coleman Tate, community committeeman, Perry County, Alabama, and Wallace L. Kadderly, Radio Service, USDA, in the Department of Agriculture period, National Farm and Home Hour from Washington.

oOo

KADDERLY:

Each Tuesday at this time we bring you a story of soil conservation...in the series "Today's Soil for Today and Tomorrow". So far in this series we have heard how farmers are conserving soil by seeding more acres to grasses and legumes, by applying lime and phosphate so that soil building crops will grow better, using winter cover crops to check soil erosion; and improving range land by following practices that build up the carrying capacity of the range.

Today we want to tell you about ANOTHER practice that is being used extensively in checking soil erosion.....the use of TERRACES. We shall hear from two farmers in one county in one state....out of the MANY counties and many states where farmers are constructing terraces. These two men are from Perry County Alabama.....Sam J. Taylor, chairman of the county Agricultural Conservation Committee; and Coleman Tate, a community committeeman in Perry County. Both have been elected by other farmers in the county to help conduct the Triple-A farm program.

In the year 1938 farmers in the United States who cooperated in the Triple-A program built almost 400 million linear feet of terraces on their farms. 400 million feet.....put them in a line and they'd run something like 74 thousand miles. But it isn't so much the EXTENT of terraces that we're talking about today as the Results coming from them.

So, Mr. Taylor, we'll look to you and Mr. Tate to tell us about the results in Perry County, Alabama.

TAYLOR:

Mr. Kadderly, we've got lots of good results.

KADDERLY:

I'm sure you have, Mr. Taylor...just pick out a good example and describe it for us, will you?

TAYLOR:

Well...let's see. One of the best was a demonstration put on by our county agent, Bob Griffin. You'd hardly believe it just to hear me tell it. In fact if I hadn't seen it, with my own eyes, I don't think I would have believed it myself.

KADDERLY:

But you DID see it, evidently....and can vouch for it.

TAYLOR:

Yes, I'll vouch for it, Mr. Kadderly.

The piece of land I'm talking about had gullies in it. Big gullies. Some

of them big enough to hide a fair sized house. Half of that piece of land was entirely bare....just wouldn't grow anything.

Well, in the fall of 1935 we terraced that field and dammed up those gullies. And just two years later, the field was level enough you could plow across the ditches. Then the farmer applied phosphate and planted the land to oats. That was in the fall of 1937. He seeded it to oats again in 1938 and made 40 bushels to the acre. Today that land is level enough you can run a combine over it without any trouble.

KADDERLY:

That certainly is getting results, Mr. Taylor. But, a bit...well...unusual, I should say.

TAYLOR:

Yes, it's unusual all right. But mainly because we don't have much land in such bad shape.

KADDERLY:

You use terraces to keep the land from getting in that condition.

TAYLOR:

Yes--and to repair land that has already been damaged, whether the damage is big or little. The idea is first to terrace the land and then to follow that up with phosphate and seedings of legumes and grasses.

KADDERLY:

Then you don't consider terracing in itself as an entire conservation program.

TAYLOR:

No, terracing is just the first step. After we get the terraces, we're ready for soil-building crops to improve fertility and help the terraces hold the soil.

KADDERLY:

Now...let me get this straight. You don't mean to imply that you keep all terraced land in legumes and grasses all the time...do you?

TAYLOR:

No, just part of the time. After all, we have to grow some cotton.

KADDERLY:

That's what I thought. You rotate soil-building crops with cultivated crops on the terraced land. Now, Mr. Tate--maybe you can add an example of the effect of terracing. How about it?

TATE:

Do you want an unusual example or just kind of an average?

KADDERLY:

Just average--such as any farmer can see...one that you've seen in your own community.

TATE:

Well, sir. Almost any farmer in our county has seen fields where bunches of grass grow above the level of the land. The soil in these little bunches will stand up 2 or 3 or 4 inches above the land right around it. I've terraced land like that and I've seen the soil fill in again around the clumps.

KADDERLY:

The terraces slowed down the water that was carrying away the soil--slowed it down so much that the soil was deposited--and filled in around the plants. Is that it?

TATE:

That's what happened.

KADDERLY:

And if the water had not been slowed up, the soil it carried would have washed off down the streams into the Gulf of Mexico.

TATE:

I guess you're right.

KADDERLY:

Most of the land in your county is rolling land?

TATE:

No sir, not most -- maybe half of it is. It's right flat where I farm. Our farm is in a part of the county we call the Black Belt.

KADDERLY:

Mr. Taylor, do you live in the Black Soil Belt, too?

TAYLOR:

No sir, I live in the northern part of the county. We have more hills than Mr. Tate does. And our soil is sandy.

KADDERLY:

Now let's see here---from what you and Mr. Tate have said, Perry County has both flat land and hilly land. It has at least two distinct soil types. Yet I gather you build terraces on the flat land as well as the hill land.

TAYLOR:

That's right.

KADDERLY:

Some people have said that on flat or gently sloping land, there are other ways of saving soil that are cheaper than terracing. What do you think about that, Mr. Tate?

TATE:

That's probably true in some parts of the country. But we have heavy rains, and our soil doesn't freeze and stay frozen in the winter. So we need terraces, even on land without much slope.

KADDERLY:

You told us that you live in a flat country. How much of your farm land do you have terraced?

TATE:

36 acres so far, but I figure on terracing 50 acres this year.

KADDERLY:

How much will that cost you...to terrace 50 acres, I mean.

TATE:

Around \$75. You see, under the Triple-A program, I have a soil-building allowance of \$91. I'll use \$75 of that for terracing. I'll also plant some more lespedeza in my pasture, and plant some velvet beans and soybeans.

KADDERLY:

Will your \$91 soil-building allowance take care of all the expense of terracing and seeding legumes?

TATE:

No, but with that much of a start, I can do the rest by myself. We have over 200 acres of land that needs terracing, and I hope to finish that work in three or four years.

KADDERLY:

Do you lay out your own contour lines---and construct these terraces with your own equipment?

TATE:

Don't you know about our terracing Association?

KADDERLY:

No, I don't believe I do.

TATE:

Well the real name of it is the Perry County Soil Conservation Association. Sam Taylor can tell you all about that because he's the manager.

KADDERLY:

Well, I should say he would be just the man to tell me. Mr. Taylor...These associations, as I understand their operations, have heavy equipment just a purpose to build terraces. Do you have that kind of machinery?

TAYLOR:

Yes, we have three power tractors, Mr. Kadderly. Regular terracing outfits.

KADDERLY:

Three of them! Say, those things cost money.

TAYLOR:

That's the reason we formed the association to buy and operate the equipment. We've got \$20,000 worth of machinery that's owned by the farmers. You see, our association is a cooperative.

KADDERLY:

A cooperative...And any farmer can get the association to terrace his land. Is that right?

TAYLOR:

Yes. It usually works out like this: a farmer comes in and says he wants some terracing done. I go over his farm with him, find out how much land needs terracing and which parts need it worst. He agrees to use all or part of his Triple-A soil-building allowance for terracing. We also work out plans for terracing more each year until the job is done. Then we send the machinery in and do as much terracing as the first year's plan calls for.

KADDERLY:

What sort of a charge is made for these services?

TAYLOR:

The association charges exactly what the farmer gets as his payment for terracing -- he gets a dollar and a half for 200 linear feet.

KADDERLY:

Well, now, Mr. Taylor--you have a rather heavy investment in that equipment. Do you keep it busy all the time?

TAYLOR:

Every day that the weather's fit. The equipment is always spoken for months in advance. We terrace cropland in the fall and winter, and pasture in the summer.

In the last four years we've terraced 53,000 acres. We've terraced one third of all the land in the county that needs terracing. Back in 1934, not over 5 or 10 percent was terraced. Farmers didn't have the equipment and they didn't have the money. Now any farmer in the county can get his land terraced. Last year alone we built terraces on about 75 hundred acres. (pause)

But as I said before, terracing is not our entire soil-building program. Last year we applied 500 tons of phosphate. Every year for the past three years we have improved 5,000 acres of pasture. And we seed around 8,000 acres of winter legumes each year. Last year we planted trees on 50 acres of poor land--that was done mostly by 4-H Club boys. This year we have planted a million trees.

KADDERLY:

It certainly sounds as if you Perry County farmers are going places now.

TAYLOR:

Yes, we're going places but our soil is staying home.

KADDERLY:

Farm and Home friends, this report on terracing and other soil conservation work under the Agricultural Conservation program has been given by Sam J. Taylor and Coleman Tate of Perry County, Alabama. Mr. Taylor is chairman of the county Triple-A committee, and Mr. Tate is a community committeeman. Perry County, Alabama, is one of many counties where farmers are conserving and improving the soil--by terracing and by other means.

This report has been one in a series on Today's Soil for Today and Tomorrow. If you would like a copy of today's report and others in the series, send a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the reports on Today's Soil.

We hope you'll be with us again next Tuesday when we'll hear a report on water conservation on the rangelands of the Southwest -- a report by Texas ranchmen.

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 13. - Range Conservation in Garza
County, Texas.

Broadcast Tuesday, April 9, 1940, in the Department of Agriculture period, National Farm and Home Hour from Washington.

Participants: Walter V. Roy and George Samson, members Agricultural Conservation Committee, Garza County, Texas, and Wallace L. Kadderly, Radio Service, USDA.

KADDERLY:

For today's installment in the conservation series, "Today's Soil for Today and Tomorrow," we bring you the story of range improvement in Garza County, Texas. The details of the report are those of Garza County, but in broad outline this is a report on range conservation in all of the 17 States of the nation where grass forms the basis for a great livestock industry.

Joining the National Farm and Home Hour family today, to represent Garza County, Texas, are Walter Roy and George Samson. Mr. Roy or "Cap" Roy as they call him in Texas--is a ranch operator and Chairman of the County Agricultural Conservation Committee administering the Triple-A program. And Mr. Samson is range inspector working with the county committee to help the ranchmen of the county put the range conservation measures into use.

Mr. Roy.... if that properly identifies you and Mr. Samson, the formalities are over, and we're ready to hear your report.

ROY:

Mr. Kadderly, I think maybe we'd better identify George Samson some more. Nobody in Texas will know who he is unless we call him the Scotchman.

KADDERLY:

I had a "wee suspicion" of that.

SAMSON:

Down in Texas, they have a lot of fun with me about being the Scotchman. But they're all 100 percent.

KADDERLY:

I'm sure you're right... Mr. Samson, how long has it been since you left Scotland to come to this country?

SAMSON:

I came to the United States in 1905 and to Garza County in 1907.

KADDERLY:

And Mr. Roy.... are you a native Texan?

Roy:

Yes I am, Mr. Kadderly. I was brought up in South Texas and went to Garza County as a cowhand, in 1897.

KADDERLY:

Maybe we'd better take a moment here to tell our listeners where Garza County is located. You men check up on me now... Garza county lies just south of the Texas Panhandle. Part of it's in the Southern Great Plains proper, and most of it's in the brakes below the Cap Rock---that is, below the outcropping of the rock layer which underlies the flat plains. Is that right?

ROY:

That's all correct. I might add, though, that our county seat is Post, and it's 160 miles south of Amarillo and 280 miles west of Ft. Worth.

KADDERLY:

Is the whole county grazing country?

ROY:

No, not the whole county. Up on the cap rock or plains, there's farming... cotton and feed production, mostly. We have 683 farms and 63 ranches, but the ranches take up about four-fifths of the land.

KADDERLY:

Four-fifths of the land in range!

ROY:

That's not so unusual for Texas. Nearly three-fourths of all the land in the State...nearly 90 million acres... is used for the production of livestock.

KADDERLY:

Well, sticking to Garza County... you said there are 63 ranches. How big do they run?

ROY:

Oh, I could estimate, but you better ask Scotty. He keeps a good check on things like that.

KADDERLY:

All right, Scotty. How big are the ranches?

SAMSON:

They run all the way from 640 acres on up. But as far as conservation is concerned, it doesn't make any difference what size the ranch is.

ROY:

What he means is that every ranchman in the county has been doing things to improve the range.

KADDERLY:

All 63 ranchmen taking part in the range conservation program, eh?

SAMSON:

100 percent, Mr. Kadderly. I told you the people there are 100 percent!

ROY:

We're talking about the range program, Mr. Kadderly. But I'd hate to go back and face Will Barton and L. R. Mason, the farmers on our county committee, if I didn't tell you the farmers are cooperating in the farm program just as the ranchmen are in the range program. We're all working together on conservation.

KADDERLY:

Maybe your working together partly accounts for the fact that you've got a lot of results to talk about.... Mr. Samson, you were telling me with considerable pride, earlier today, that the ranchmen of Garza County have constructed a large number of earthen tanks or reservoirs as new watering places for the cattle. But we were interrupted before you told me how many...

SAMSON:

They've built 282.

KADDERLY:

282....in how long a time?

SAMSON:

In three years... that's all the time we've had the range program. They built 108 in 1937, 86 the next year, and 88 last year. They've already built 15 or more this year, and before the year ends, they'll probably build 45 more.

KADDERLY:

For a 1940 total of around 60 earthen tanks if my mental addition is right.

SAMSON:

Yes, that's right.

ROY:

Tell him how much water those tanks will hold, Scotty.

SAMSON:

We haven't figured it up since the first of the year, Cap.

Keltz Garrison--he's the secretary of the committee, Mr. Kadderly--Keltz gave me the figures for the first three years, and the tanks we had then would hold more than a thousand acre-feet of water.

ROY:

That means enough water to cover more than a thousand acres one foot deep.

SAMSON:

The water doesn't actually cover that much territory. Lots of the tanks are 18 and 20 feet deep.

KADDERLY:

Yes, I understand that. But what impresses me especially is the fact that 63 ranchmen in one county have built about 300 reservoirs in just a little over three years.

ROY:

We believe in 'em, Mr. Kadderly.

Since we've found out how much good they'll do the range, the ranchmen have spent a lot more money than the payments amount to, for tank-building.

KADDERLY:

You're a hundred percent for 'em, as the Scotchman would say.

ROY:

You bet. And talking about the Scotchman---He's one of the big reasons we believe in tanks. He helps us locate them and helps us build 'em right. We haven't had a break in a single tank dam, and they all catch water.

SAMSON:

There you go again, Cap, giving credit to the Scotchman. It's not the Scotchman or anybody else. It's the program. It's educational. This is the biggest educational thing we've ever had.

ROY:

You can tell he means that, Mr. Kadderly. And I don't know but what he's right... Under this program, we've got an education in grasses. Scotty has got us ranchmen studying grasses just as if we'd never seen any. We've even got collections of grasses, framed and hanging in our homes.

KADDERLY:

You've found the grasses interesting, then....

ROY:

Yes, but that's not quite the point. It's good business. We've decided we need to know grass just as well as we know cattle. Grass is the best conserver of soil there is, and we're using our programs to get more grass on the ground.

KADDERLY:

Mr. Roy, when you say the program is helping you get more grass, you really mean the people---the people of the United States---are helping the ranchmen establish better stands of grass....isn't that right?

ROY:

Yes, that's right. And when you can see the results, like we can, you can be sure the people are making a good investment. The people of this country will still depend on the land, long after the present owners are gone. They'll still need food, and part of America's future food supply will come from the land we're now protecting with improved stands of grass.

KADDERLY:

In Garza County, Mr. Roy, what kinds of grass do you have?

ROY:

We have too many kinds to name them all. The main ones are buffalo, several kinds of grama grass, tobosa, drop-seed, windmill, bluestem, and curly mesquite. How am I doin', Scotty?

SAMSON:

100 percent, Cap.

KADDERLY:

Mr. Roy, before we got away from the subject of tanks, I intended to ask just why the ranchmen of Garza County have built so many tanks. Why do you need tanks at all, and why was there such a rush to build them as soon as the range program came along?

ROY:

Well, let me tell you a little history. When I came to the county in '97, the ranches were stocked with rangy cattle that could go 6 or 7 miles for water. The country was all open range. No fences to keep cattle away from any water there was. We always had to depend on surface water because we don't have running streams in the county, and a lot of our well water in West Texas is either salty or gypsy.

KADDERLY:

By "gypsy", you mean it has gypsum in it?

ROY:

Yes.

KADDERLY:

That's not so good.

ROY:

No, not so good. Well, to go on with the story, some of the old water holes filled up with dirt so they wouldn't hold water any more. (That's as time went on.) The ranchmen made some water holes, but we didn't know much about making them. They either wouldn't hold enough water or the dams would wash out, and our money and work would be wasted. One thing that held us back was that a good tank costs a good deal of money. Well, without enough watering places, you can't keep the grass very good and still graze as many cattle as you need to. They graze and tramp out the grass around the few watering places, and they tramp it out and create trails and gullies going back and forth. They also take off a lot of weight when they have to graze too far away from water. We got along fairly well in wet years, but the drought of 1934 caught us short of water. We had to sell off all our stock except a few cows.

KADDERLY:

Then, as a result, you were all ready for a tank-building program when it came.

ROY:

That's right... But Mr. Kadderly, I think you know the tanks are just part of what we need for range conservation.

KADDERLY:

I was going to ask Scotty what other practices are being carried out in Garza County.

SAMSON:

The ranchmen have made a good start on deferred grazing. That's keeping stock off part of the range during the growing season - giving it a rest and a chance to reseed. In 1937 they rested 73,000 acres and in 1938, 95,000. They would have rested more in 1939, but last year was dry and they needed nearly all the grass there was. So they used deferred grazing on only 75,000 acres.

KADDERLY:

You think deferred grazing will be an important conservation practice in the county in the future?

SAMSON:

Sure. The ranchmen are watching the grass that has had a rest. And Homer Thompson, our county agent, encourages them to try deferred grazing. On the deferred grazing land they see a better turf. Some of the grass gets so high it touches the stirrups on your saddle. It makes a lot of winter feed. And this, of course, cuts down the expense of carrying cattle through the winter.

ROY:

Mr. Kadderly, that's a point the Scotchman won't overlook. It saves on the cost of feed.

KADDERLY:

He'll make Scotchmen out of all you Texans.

ROY:

Not such a bad idea at that!

SAMSON:

Stop talking about the Scotchman, Cap. I'm telling Mr. Kadderly about our program.

KADDERLY:

Go right ahead, Scotty, and wind it up.

SAMSON:

Well, besides deferred grazing, the ranchmen have built some fire guards, and they need to build more. They are beginning to eliminate mesquite and cactus and other range pests.

KADDERLY:

The mesquite I've seen is a woody shrub, some times as big as a small tree, and with tremendous roots...a real pest on the range. Is that the kind of mesquite you have?

SAMSON:

That's the kind. After they get rid of more of that, the ranchmen want to ridge and contour furrow their range land.

KADDERLY:

To make more water soak in, instead of run off....Mr. Roy, from what Scotty Samson says, you Garza County ranchmen have a lot of work mapped out.

ROY:

He's right, Mr. Kadderly. We're figuring our conservation job years ahead. I reckon the Scotchman will ride herd on us to keep us from lagging behind.

SAMSON:

There you go talking about the Scotchman again. Forget about the Scotchman and talk about the program.

KADDERLY:

Farm and Home friends, this could go on and on but we'll settle this in private - perhaps.

The time has come to stop talking both about the Scotchman and the program. In this report on the Triple-A Range Conservation Program in Garza County, Texas, you have heard from George (Scotty) Samson and Walter (Cap) Roy. Mr. Samson is range inspector and Mr. Roy is chairman of the Garza county agricultural conservation committee. Garza County, Texas, is only one of the many counties in 17 range States where ranchmen are conserving and improving one of our greatest national resources - the grass.

The series on Today's Soil for Today and Tomorrow continues next Tuesday when we hear from New England. New Hampshire farmers will report on conservation through proper management of woodlands. If you would like a copy of today's report and others in this series, address a card or letter to the Department of Agriculture, Washington, D. C. Ask for the reports on "Today's Soil."

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 14 -- Conserving Woodlands in
New Hampshire.

Broadcast Tuesday, April 16, 1940, by Ismond Ellingwood, Charles Jackson and William Galbraith, Coos County Agricultural Conservation Committee, from Washington, in the Department of Agriculture period, National Farm and Home Hour, by 92 stations associated with the National Broadcasting Company.

--ooOoo--

KADDERLY:

Now for another report in the series on Today's Soil for Today and Tomorrow. Each Tuesday, you remember, farmers are telling us how they and their neighbors are using the soil-building practices of the Agricultural Conservation Program. Today we're going to talk with three men whose home county is up in northern New England.

When we think of New England, we think of forests -- woods that furnished our forefathers with timber for their homes, and fuel for their comfort. Today northern New England still has many thousand acres of woods -- not the great source of lumber that they used to be -- but still supplying wood for farm use, for fuel, and still an important source of cash income. That's true of the county that our guests come from. They're from Coos County in the uppermost part of New Hampshire, a county whose northern border touches Canada. We're going to hear about woodland farming from the three members of the Coos County Agricultural Conservation Committee -- Ismond Ellingwood, the Chairman, Charles Jackson, and William Galbraith.

Mr. Ellingwood, this is sort of beside the point, but as a transplanted native of Oregon, I can appreciate the satisfaction that you and Mr. Jackson and Mr. Galbraith -- must get from all those days you spend out there in the woods.

ELLINGWOOD:

Well, we like the woods, Mr. Kadderly, But we're really farmers. Charlie Jackson is a potato grower, Bill Galbraith is a dairyman, and I'm a dairyman, too.

KADDERLY:

Dairyman and potato growers ... would you say that classified most of the farmers of the county?

ELLINGWOOD:

Yes, I think it does. Milk is our chief source of income, with potatoes next. In summer we grow hay and corn for cow feed. In the winter we work in the woods.

KADDERLY:

Then the conservation program, with its woodland management practices, as well as soil-building practices for cropland, must fit your county very nicely.

ELLINGWOOD:

It does. Last year about 850 of our 1100 active farms were in the conservation program.

KADDERLY:

How big are those farms?

ELLINGWOOD:

They average 177 acres ... We have, roughly, two acres of woodland to one acre of cropland.

KADDERLY:

What does that woodland return to the farmers in the county, in terms of products and value?

ELLINGWOOD:

Bill Galbraith had that figure just the other day, Mr. Kadderly. What was it, Bill?

GALBRAITH:

About \$600,000 a year ... That's what our county extension forester told me.

ELLINGWOOD:

Gross income, isn't it, Bill?

GALBRAITH:

That's right. And it includes income from logs, pulpwood, poles, posts, fuel and cordwoods, and Christmas trees.

JACKSON:

It amounts to about \$325 a farm per year, Mr. Kadderly.

KADDERLY:

Is that \$325 all cash income, Mr. Jackson?

JACKSON:

No -- a little over a third of that is the value of wood used on the farm -- cordwood, posts, lumber and so on. The rest of it -- about \$200 -- is cash income. The cash is largely from pulpwood, but also from maple syrup, cordwood that we sell, and of course, from our Christmas trees.

KADDERLY:

Christmas trees ... do you grow them for that purpose?

JACKSON:

seed

No, we just let 'em grow. ~~The trees~~ / themselves in our open pastures. And when they're big enough, we harvest the crop. We usually ship about 50 carloads.

KADDERLY:

Seems to me I've heard something about a farmers' cooperative up in your good state that makes a business of marketing Christmas trees.

JACKSON:

What do you think of that, Bill? Mr. Kadderly has heard of our Forest Products Association way down here in Washington.

GALBRAITH:

Well, why not? Our trees go as far south as Florida and as far west as Detroit. Chances are, Mr. Kadderly had a Coos County tree in his own home last Christmas.

KADDERLY:

To tell the truth, I'm not sure about that. You see, I learned about your association from reading. I'm right about its being a co-op, am I not, Mr. Ellingwood?

ELLINGWOOD:

Yes, it's a co-op. It was started in 1935. We were trying our best to find a way to increase our income.

KADDERLY:

Income had fallen pretty low because of the depression, hadn't it?

ELLINGWOOD:

You bet it had ... and the mills were in as bad shape as we were. We got together with the farmers in Essex County, Vermont, to help ourselves and to help the mills we sold pulpwood to. The state extension service and the state farm bureau helped us organize the co-op, and the Federal Government helped us finance it.

JACKSON:

It was started to help farmers finance the cutting and delivery of their logs and pulpwood. We now handle all kinds of forest products ... pulpwood, logs, and Christmas trees.

KADDERLY:

Mr. Jackson, you said before that the largest source of cash income from the farm woodlot is pulpwood. The mills Mr. Ellingwood referred to must be paper mills.

JACKSON:

That's right, we have three paper mills -- and they furnish a market for the bulk of the pulpwood we produce.

ELLINGWOOD:

Then there's a furniture factory and several other small mills that buy lumber.

GALBRAITH:

We sell our long logs to that furniture factory. We also have our own sawmill.

KADDERLY:

What do you mean by that, Mr. Galbraith ... "our own sawmill?"

GALBRAITH:

I mean the farmers own it. But, Mr. Kadderly, there's another angle to this woodland business that has become important to Coos County in recent years ... I think you'd be interested to know our woods provide lots of opportunities for recreation.

KADDERLY:

Recreation ... hmmm ... that means summer vacationists?

GALBRAITH:

Yes, summer vacationists, winter sports fans, mountain climbers, and also hunters and fishermen.

KADDERLY:

Say, I am interested!

GALBRAITH:

I thought you would be.

KADDERLY:

But to stick to your viewpoint, Mr. Galbraith ... Your woodlands provide recreation and that's another source of income to the county.

GALBRAITH:

That's right ... And I think you can tell from all these things we've told you that we would have a hard time making a living without the income from the wood.

KADDERLY:

Yes, and it's good to know that the people of Coos County realize the importance of woods. I judge from what you men have said that your county is really "woods conscious."

ELLINGWOOD:

A good example, Mr. Kadderly, is the small number of forest fires in Coos County. We realize how destructive a fire can be.

GALBRAITH:

Another example, Ismond, is that all the farmers I know look on their woods as a savings account -- something to draw on if they need money to educate their children ... or to meet unexpected expenses.

ELLINGWOOD:

Also, Bill, the condition of the farm woodlot is considered when the farmer applies for a loan.

KADDERLY:

Sounds to me as though Coos County people are thinking in terms of conservation.

JACKSON:

They are. And so are the people all over New England. It used to be that the woodlands would be cut clean. Everything that would sell was cut. Woods were exploited -- like our soil has been exploited. But now we're changing all that. Now, we cut only a part of the trees. We pick them out so there is more opportunity for the rest to grow and so there'll be others ready to cut every few years.

GALBRAITH:

To do that, Mr. Kadderly, we have to KNOW our woods, the amount, the type, and growth of timber.

ELLINGWOOD:

... So we'll know how much we can cut each year without exceeding the annual growth.

GALBRAITH:

And so our local wood industries will be able to depend upon receiving certain quantities of raw material during the years to come.

KADDERLY:

In other word, Mr. Galbraith, you want to handle your woodlands so they will continue to be productive.

GALBRAITH:

That's right.

KADDERLY:

I'd call that the fundamental purpose of the Agricultural Conservation Program. That program encourages farmers to use their soil, their woodlands, and their other resources so they'll continue to produce -- well indefinitely, just as you said.

ELLINGWOOD:

In Coos County, Mr. Kadderly, nearly 80 percent of our active farms are cooperating in the program. And many of us are hurrying our clean-up work so we can really practice the kind of woodland management the program encourages.

KADDERLY:

Hurrying your clean-up work. I suppose that refers to the hurricane that struck New England in the fall of 1938.

ELLINGWOOD:

That hurricane hit us hard. We were just getting started with the conservation program on our woodlands when that hurricane hit. And it sure raised havoc with our woods.

JACKSON:

Especially our maple orchards, Mr. Kadderly. Some of them were cleaned out.

KADDERLY:

Well look! ... your county must be one of those where the Triple-A provided a special conservation practice to encourage the clean-up of hurricane damage in the woods.

GALBRAITH:

Sure. That's what we call the hurricane clean-up practice.

ELLINGWOOD:

The story on that, Mr. Kadderly, is that after the hurricane, the Forest Service helped with the salvage of logs and the clean-up along roads and other public places. But when that was done there was a lot of brush and other debris left in the farm woodlots. As a result, we were sitting on a tinder box.

JACKSON:

Not only danger of fire, but the accumulation of slash would prevent new seedlings from growing. Fortunately there was a good crop of tree seed that year, and if we make ground conditions right, those seeds will have a chance to grow.

KADDERLY:

I take it Coos County farmers have been busy at the hurricane clean-up job since a year ago last fall.

GALBRAITH:

They have. When that job is out of the way, then we can give more attention to the other woodland management practices in the conservation program.

ELLINGWOOD:

Two of the practices in particular -- fencing cattle out of woodlands, and improvement cutting -- they're badly needed.

KADDERLY:

Fencing cattle out of woodlands? That is important in woodland management, isn't it?

ELLINGWOOD:

Yes, because the cattle damage the young seedlings. In hardwoods, the cows eat the tops off the seedlings and in other stands they trample on them.

In our county we seldom need to plant trees - they'll start by themselves. But they won't continue to grow into good trees unless we protect them from cattle.

Improvement cutting is also important. This includes removing trees that will never be profitable and thinning to encourage a maximum growth of timber.

KADDERLY:

You're looking ahead to permanent improvements, then ...

GALBRAITH:

Mr. Kadderly, more than 3,000 New Hampshire farmers carried out woodland improvement practices under the program last year. Three thousand is about half of all the active farms in the State. They carried out these practices on nearly 15,000 acres --- or an average of about 5 acres apiece. This represents a big change.

JACKSON:

It goes to show that farmers not only in Coos County but in many other counties are thinking in terms of the future of their woodlands.

ELLINGWOOD:

Not merely thinking, either. The conservation program helps us turn our thinking into action.

KADDERLY:

"Action" ... that's the watchword of the whole conservation movement. Action to conserve our soil and restore its fertility. Farm and Home friends, in this report on farm woodlands and the conservation program, you have heard Ismond Ellingwood, Charles Jackson, and William Galbraith, members of the Coos County, New Hampshire, Agricultural Conservation Committee. In general, their account of woodland conservation applies not only to their county but to scores of counties where trees are important.

The series on Today's Soil for Today and Tomorrow continues next Tuesday with a report from Stutsman County, North Dakota. We'll hear about wheat crop insurance and wheat loans as an influence toward conservation.

If you would like to have a copy of today's discussion and others in the series, address a card or a letter to the Department of Agriculture, Washington, D. C. Ask for the reports on Today's Soil.

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 15 - Crop Insurance and Soil
Conservation in Stutsman County,
North Dakota.

Broadcast Tuesday, April 23, 1940, in the Department of Agriculture period, National Farm and Home Hour, from Chicago.

Participants: Chris Wingire, wheat farmer; Mrs. E. A. Watt, farm woman; and Noel Solien, business man, all of Stutsman County, North Dakota.

--ooOoo--

MITCHELL:

Now the Department of Agriculture presents another installment in the weekly series on conservation; "Today's Soil for Today and Tomorrow."

MUSIC:

(A few strong chords, then mood for background)

MITCHELL:

To the northern great plains in the Eighties, white men introduced a new kind of civilization. To a land of grass and buffalo they brought their teams and plows to make the plains grow wheat. (Pause) The Indians didn't like it. They shook their heads and mumbled: "Paleface in for heap of trouble...turn sodland wrong side up."

It's an old story. But it happened just a little more than fifty years ago. In many cases, less.

At first the soil was firm and crops were good. But trouble soon overtook the plainsmen, Dry spells...rust, and freezing ruined their crops. Grasshoppers came in great dark clouds. But even with these many handicaps...they built up a great wheat country.

Then came poor prices...on top of that, more drouth. The land began to blow.

MUSIC:

(Up momentarily then lose music under next paragraph.)

MITCHELL:

Today the plainsman labors beneath a cumulative burden...a long series of drouths. But he remembers a few good crops. He's waiting now for another one. He farms on a large scale. One good crop at fairly good prices, and he pays up his taxes, wipes out his debts. Then some lean years follow. It's a long wait again for another bumper crop.

What does this do to the land? What does it do to the towns?
What does it do to the people?

And what are the people doing to meet this problem of the plains?

That's the story we're to hear today, from three residents of Stutsman County, North Dakota; Chris Wingire, a wheat farmer; Mrs. E. A. Watt, the wife of a neighboring farmer; and to complete the picture of farm...home...and town of the plains, Noel Solien...a business man. Mr. Solien runs a clothing store at Jamestown...Jintown, as the North Dakotans say.

Mr. Solien...What's the population of Stutsman County?

SOLIEN:

Oh...just a few people and lots of space, Mr. Mitchell. Twenty-five thousand people in a county the size of Rhode Island.

MITCHELL:

Only 25,000 people in the County.

SOLIEN:

I guess we're sort of lucky to have that many. We've had some pretty tough times.

WINGIRE:

But Noel, you can't say the times have always been hard.

MITCHELL:

You've seen good times and bad times...is that right, Mr. Wingire?

WINGIRE:

That's right...I went to Stutsman County in nineteen-ten, as full of hope as a man could be. I paid twenty dollars an acre for my farm, and it was a good proposition. A large operation. Out in that country you have to farm on a big scale before you can make anything.

SOLIEN:

No such thing as blowing land in those days, was there, Chris?

WINGIRE:

No. But there was lots of work to do. I spent a pile of money building up that farm. Built some barns and fences and improved it all the way around. And we made some mighty fine crops, too.

SOLIEN:

And the war sent your prices up.

WINGIRE:

Sent land values up too. Mr. Mitchell, in 1920 I could have sold out for \$30 an acre.

MITCHELL:

That was lots of money.

WINGIRE:

But I stayed on, and things got worse. When the drouth came and the crops began to fail-- I still kept on. And pretty soon I was digging

into my reserve. Then prices went to pieces.

SOLIEN:

Too late to sell out then.

WINGIRE:

Yes: It made you sort of desperate. And then came 1932.

SOLIEN:

I know what Chris means by that, Mr. Mitchell. I was in business.

WINGIRE:

In 1932 I took a load of wheat to town and sold it. Seventy-two bushels. Then I loaded up with coal. And by George, I didn't get enough for the load of wheat to pay for the load of coal.

MITCHELL:

You might as well have burned the wheat.

WINGIRE:

Some of the people were burning it. But I couldn't do that. Wheat is for bread. I made up my mind to have some coal for the fire that winter. (Pause) Well, I went in debt. I mortgaged the farm. And in 1938 I lost it.

MITCHELL:

You lost it! After you had spent more than a quarter of a century trying to build it up.

WINGIRE:

That's right, Mr. Mitchell. I don't know whether you know what that's like or not. But I'll tell you. Before I lost the place, some cactus had grown up on a piece of my best land. When the wind blew, the dust came...and mounds piled up around the cactus. Well...in '34...I'll never forget it. I took my tractor and a spring-tooth cultivator...and I went into that field to tear those mounds apart. It was some of my best land.

SOLIEN:

Good chocolate soil! I've seen it.

WINGIRE:

But it was dry -- like powder. I tell you, it went right down to the bottom of my heart. And I got to thinking. Twenty-eight long years to make a home for my family on that farm of mine. And there I was, about to lose it. No prospect for a crop. And some of my best land was flying right up into my face. Well sir, I just got down off that tractor and I lay down in the dirt and bawled.

MITCHELL: (Pause)

I think I know how you felt. But Mr. Wingire! Here you are. You're still a farmer. And you don't look the least bit discouraged now.

WINGIRE:

Well...that's another story.

MITCHELL:

That's a story we want to hear. But first I'd like to ask Mrs. Watt if she has seen the crops fail too.

MRS. WATT:

Yes...I have. And I've also seen the price fail. That's just as bad, you know. It's bad for us, and it's bad for our land.

MITCHELL:

It worked a hardship on your land, did it?

MRS. WATT:

Of course it did. Mr. Mitchell, suppose you were in debt.

MITCHELL:

That's not hard to do.

MRS. WATT:

Well...suppose you were a farmer. You had taxes to pay whether you made a crop or not. You had notes to meet. Suppose you had two girls in school. Your cash crop was wheat...that was your only source of income. You had no definite assurance of any income the next year. But wheat was your only chance. Now...what would you do?

MITCHELL:

Why, grow wheat, I suppose.

MRS. WATT:

You wouldn't want to spare some of your land for a soil-conserving crop?

MITCHELL:

A crop that I couldn't turn into money right away?

MRS. WATT:

That's what I mean.

MITCHELL:

Well...If wheat was the only money crop, I guess I'd have to take a chance on wheat.

MRS. WATT:

Of course you would. And that's what we all had to do.

SOLIEN:

But you're conserving your land these days, Mrs. Watt. And you're diversifying.

MRS. WATT:

We are, Mr. Solien, and it's all because our income has been stabilized. The farm program gave us a chance to see our way ahead. Payments have made it possible to rotate our crops and cut down our soil-depleting acreage.

SOLIEN:

And wheat loans--they gave you price protection?

MRS. WATT:

That's true. But Mr. Wingire knows more about that. He had a pretty good crop. We didn't have much wheat to sell last year. Our crop was just about ruined.

WINGIRE:

But you did have crop insurance.

MRS. WATT:

Yes.

WINGIRE:

Saved you and Ed a lot of worry too, didn't it Mrs. Watt?

MRS. WATT:

Oh, the peace of mind--that was about the nicest thing. Last year when the drouth set in and the grasshoppers came, they didn't seem as awful as they used to. We knew they couldn't wipe us out.

SOLIEN:

I felt the same way, Mrs. Watt.

MRS. WATT:

I didn't know you seeded wheat, Mr. Solien.

SOLIEN:

I didn't. But last year I found out from Ed Dullea what the insured production for our county was. (Ed is a member of our county triple-A committee, Mr. Mitchell.) The figures I got from him showed me a lot better how to place my clothing orders. Crop insurance meant business insurance for us.

WINGIRE:

Of course our county didn't have to fall back on insurance as much as some counties did.

MITCHELL:

Did that cut down the number of farmers insuring for 1940?

SOLIEN:

No - it sure didn't. Our county paid in two bushels in premiums for every one that was returned in settling losses. Even so, five hundred more farmers came in on insurance for 1940 than were in for 1939.

WINGIRE:

Same thing's true for the whole of North Dakota. The thing about it was, our state produced a good deal of wheat last year. There were crops on more insured farms than were failures. So the whole thing just sort of balanced out.

SOLIEN:

How about you, Chris? You had insurance, but you made a crop.

WINGIRE:

Yes, but believe me -- I'm never going to be without crop insurance as long as I can get it. Just the worry saved, is worth the cost.

MITCHELL:

Mr. Wingire, Mrs. Watt said you could also tell us a personal experience with the wheat loan.

WINGIRE:

I can, and it's simply this. If I hadn't been able to get a wheat loan last year, I'd of had to sell right after harvest. There were certain things I needed money for. And if the farm program hadn't held up the price in this country--above the world level--I figure this way: We'd of all done well to get two bits for our wheat last summer. As it was, I got around 86 cents for most of mine.

SOLIEN:

The same thing applies to the whole county, Mr. Mitchell. Maybe everyone didn't get as much as 86 cents. But the way I figure: last year's crop of wheat will have made around a million and a half dollars for the farmers of our county. Without the loan, we feel it wouldn't have brought more than half a million.

MITCHELL:

Then....throwing loans, crop insurance and Triple-A payments all together---what did that...mean....to...

WINGIRE: (Interrupting)

Well, I'll tell you -- Farm income in our county was nearly four times greater with the program than it would have been without it.

MITCHELL:

Well...if you'd had four times as much income back in the early thirties, Mr. Wingire, I suppose you wouldn't have lost your farm?

WINGIRE:

No, I wouldn't. But it's not too late yet.

MITCHELL:

What do you mean--it's not too late?

WINGIRE:

I mean I intend to get my farm back...When I lost it, I managed to keep on--as a renter. Since then I've made some real progress. I've made a few good crops. And --I used the farm program in every way there

was. Now I have a good set-up with the Federal Land Bank. And if our program continues, I'm going to get my farm back!

MITCHELL:

That'd be a mighty fine feeling, wouldn't it?

WINGIRE:

It sure would.

MITCHELL:

And Mrs. Watt. About that insurance money you received to make up for the loss of your crop. Would you mind telling us what you used it for?

MRS. WATT:

We used it to pay our back taxes. And it may be surprising... but we're in a better financial condition now than at any time since 1930.

MITCHELL:

With all the set-backs, of depression--and drought?

MRS. WATT:

Yes...For the first time since 1930, our taxes are paid up to date. Our livestock is clear of debt. If we make a good crop on our nine hundred acres this year, we'll be on top of the world.

MITCHELL:

Right up there in the clouds, eh? Well, Mr. Solien...what about your business? How's she going?

SOLIEN:

Well, the answer is good. But I don't think you know what my business really is.

MITCHELL:

I thought it was clothing. Isn't that...right?

SOLIEN:

Oh, I do sell clothes. But when you come right down to it, my real business is farming. You see...If the farmers of our community don't make a living, we so-called business men simply can't exist.

MITCHELL:

Then, we've been talking about your business all the time.

SOLIEN:

Sure we have. It all applies to towns as well as farms. Wheat loans support the price of wheat and also the stock of goods in the store. Crop insurance makes the farmer certain of a crop of wheat -- and it makes me certain of a crop of clothing to sell.

WINGIRE: And it all helps to build up the soil. You don't want to forget about that.

SOLIEN: That's right, Chris. You've got to have an income in order to take care of the soil. And we've got to take care of the soil because that's our living.

WINGIRE: If we take good care of the land and get some rain watch the plains come back.

MITCHELL: With that note of confidence from Mr. Wingire, we must end another discussion in the weekly conservation series: "Today's Soil for Today and Tomorrow." You have heard Chris Wingire, a farmer; Mrs. E. A. Watt, a farmer's wife; and Noel Solien, a businessman ---- all of Stutsman County, North Dakota. Would you like to have a copy of this and other reports in the series? If you would, address a card or letter to the Department of Agriculture, Washington, D. C. Ask for the reports on Today's Soil.

Next Tuesday the series will end. And the final report will be given at that time by the Secretary of Agriculture, Henry A. Wallace. If you use daylight saving time, listen during this same hour next Tuesday. If you use standard time, listen one hour earlier.

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TODAY'S SOIL FOR TODAY AND TOMORROW
No. 16 - Conservation -- Today and
Tomorrow.

Broadcast by Henry A. Wallace, Secretary of Agriculture, Tuesday, April 30, 1940, in the Department of Agriculture period, National Farm and Home Hour.

--ooOoo--

KADDERLY:

Conservation of basic natural resources in recent years has been adopted as a national policy by the people of the United States. Congress has charged the Secretary of Agriculture with administration of various laws intended to put this policy into effect. Today the Secretary discusses with you the progress and the problems of saving and improving the farm and ranch lands of this country. He has chosen the subject "Conservation--Today and Tomorrow." In making this report he brings to a close a series of discussions--"Today's Soil for Today and Tomorrow" - in which farmers and ranchmen have reported to you on conservation work in their own counties. The Secretary of Agriculture, Henry A. Wallace.

SECRETARY WALLACE:

The seeds of the conservation idea were planted many years ago. They germinated slowly. But they are no longer dormant. They have sprouted. Properly nurtured over a period of years, the conservation movement will burst into full flower with promise of abundance and security for the America of the future.

We as a nation have gone through the long, drab winter of exploitation, and the springtime of conservation is with us.

The reports you have heard in this series of broadcasts illustrate the point. Farmers and ranchmen have given you glimpses of what 6 million of their fellows are accomplishing in the fight against exploitation and waste of our greatest national resource, the soil.

They also have given you a glimpse of the confidence and enthusiasm with which they have entered this fight. It's the same spirit that conquered a wilderness, that took a people westward to the mountains, the valleys, and the plains: the spirit that built the railroads, developed the mines, and made our agriculture the most efficient on earth. In short, it's the same spirit that built America. Today it is re-building America.

The reports given in this series have focused your attention on many varieties of problems.

For one thing, we have found that land which should be devoted to conserving crops and is not, invariably produces surplus crops that rob the soil and cut farm income. We have found that we need much more land in soil-conserving grasses and legumes. The shift from soil-depleting to soil conserving crops is absolutely essential to conservation.

As an example of this, the farmers from Logan County, Illinois, reported that in the past they have had too much land in corn with too little land in legumes. The result was low income and declining fertility of the soil. Now the situation is changing. Ninety percent of the farms in the county are now in the farm program. They are planting within acreage allotments, using less land for corn, and they have a third of their land in soil conserving crops. They are protecting themselves against any future necessity of throwing all the land into corn production by holding a reserve of corn in the Ever-Normal Granary.

One of the best soil-conserving crops is alfalfa. On dairy farms, it is also a necessity. Under the program the farmers of a dairy county in Wisconsin, reported they have increased their alfalfa acreage from 5,600 to 35,000, or more than 6-fold.

However, in some parts of the country, farmers must meet a serious soil problem before it will even do any good to seed the legumes and grasses they need so badly. Some soils have been farmed so long and so intensively that they have lost their supplies of the calcium and phosphorus that legumes and grasses demand. To supply these lost minerals, many farmers are applying lime and superphosphate. In this radio series, farmers representing three counties of Tennessee have reported large increases in their use of these materials. One of these counties in 1939 used 8 times as much superphosphate to grow soil-conserving crops as it used just three years before.

In the South, both soil experts and farmers have long noted the need for winter cover crops -- crops that hold the soil in place during winter rains. As the report from a Delta County in Mississippi indicated.. thousands of Southern farmers are now tying down their soil and making it more fertile during the winter by growing vetch, winter peas, and bur clover.

Winter legumes also help farmers meet another soil problem. Virgin soil is well supplied with humus - the dead roots, stems, and leaves of plants. But cultivate this soil over a long period of time, harvest off the plants that grow there, and the humus disappears. The soil becomes unproductive. Under the conservation program, farmers are adding humus to the soil by turning under winter cover crops. We heard about this from the North Carolina farmers.

Grass and trees are extremely important in soil conservation. As illustrations of how the farmers and ranchmen of the nation are using these crops, the series brought you reports from Oregon, Wyoming, Texas, Minnesota, and New Hampshire.

In one county of Oregon, farmers have put away 30 thousand acres of former wheat land under a protective cover of crested wheat grass. Farmers in a Pennsylvania county have just recently done more to restore permanent pastures than had ever been done before in the county.

Ranchmen are re-building the great range lands by constructing tanks and reservoirs which enable livestock to obtain water in more places and thus spread out the grazing. They are also helping the range reseed itself by using deferred grazing and other practices that help maintain the stand of grass.

As to trees....the farmers in just one county of Minnesota, have planted 75,000 trees a year for the past 5 years. And in the woodlands of New England, farmers are substituting careful management in place of exploitation.

Along with soil-conserving crops, many farmers need to use mechanical means of stopping erosion. One of the best known mechanical methods is terracing. United States farmers in 1938 constructed more than 70 thousand miles of terraces. In this series, you heard from an Alabama county which has terraced a third of all its land that needs terracing in just four years.

You have also heard about the terrifically complicated problem of conservation in the Great Plains. Conservation is hardly the word, for the people whose land blows badly have to stop the destructive force of the wind and reclaim dust-piled fields before they can even think about permanent conservation. Yet - as you heard from a Western Kansas county - many farmers now prevent soil-blowing with cover crops and by farming their fields in strips that prevent the wind from catching hold of the soil. The results seem to indicate that men CAN learn to live in our semi-arid regions, that they can create a stable farming system. But they can do so only if the public accepts a share of the responsibility and the cost.

As a matter of fact, public acceptance of responsibility for soil conservation is as necessary as the work done by farmers. Even a much better income than farmers now have would still sharply limit the amount of conservation work that farmers could do without assistance. Last week we had an example of how income affects the care of the soil. The people from a county in the plains of North Dakota told how wheat crop insurance and other parts of the farm program are conserving both human and soil resources.

Remember that the reports you have heard in this series are only examples and illustrations. Multiply each many many times, and you begin to get the true picture. You get the vision of an awakened, militant America--fighting the assaults of wind and water erosion, blocking the soil waste that accompanies surplus production and insidiously undermines our producing ability.

Contrast this picture with what you saw only 10 years ago and less. Contrast it with a downtrodden agriculture--an agriculture not yet awakened to the extent of exploitation, unable to act even if awakened. It was an agriculture growing not richer but poorer--growing yearly poorer in soil, poorer in money, and poorer in hope.

In these reports by farm people, I think I have caught a note of wonderment--almost astonishment--that conditions have changed so much, in

such a short time. They also gave us an inkling of their vision of the future. It's almost as if they had been in a tunnel and suddenly had come out into daylight overlooking a homeland they had wanted but had almost despaired of seeing again.

I believe that is a truly accurate conception--that through the conservation work carried on by millions of farmers in the past few years, this nation has achieved--not the objective--but proof that we can build and are building a permanent American agriculture.

We still have a long road to travel. Farm income is rising but it is still far too low. When a farmer must choose between sending a child to school and putting lime on a field, lime will be forgotten. Farm income is a key to the future of conservation in this country. Remember that we are still using and wasting our soil faster than we are building it up. There is no objective more important than to bring soil loss into balance with soil building.

We are approaching this point of balance through the conservation program. The program is working. Under it, farmers have substituted soil-conserving crops and home-consumption crops for approximately 40 million acres of surplus crops which needlessly deplete the soil. More than 80 percent of all the crop land in the nation is in the conservation program. The program is working - because the farmers are making it work.

Through the farmer-committeemen who administer the AAA phase of the program locally, the program is achieving an ideal in democracy. This series of radio reports is in itself an example. Farm people who have been granted a loan of Federal powers have been reporting back to the whole people who granted these powers through a national farm program. They have been giving an account of their stewardship. They represent the more than 6 million farmers who, in effect, have adopted the attitude of "USE WITHOUT WASTE."

We must use our resources today. But we must not waste them. We must husband our resources as a national treasure for tomorrow, and the many tomorrows to come.

KADDERLY:

Farm and Home friends, in this closing installment of the series, "Today's Soil for Today and Tomorrow" you have heard the Secretary of Agriculture, Henry A. Wallace.

If you would like to have a copy of Mr. Wallace's remarks and the other reports that were mentioned by Mr. Wallace, address your request to the Department of Agriculture, Washington, D. C. Ask for the reports on "Today's Soil."

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